



A Rare Late Complication of Bladder-Preserving Therapy: Colonic Migration of a Double-J Stent with Enterovesical Fistula Formation

Samer Hussein Hadı Alhaddad*, Hikmet Enes Canpolat, Ozgur kazan, Mehmet Çağlar Çakıcı and Asif Yıldırım

Istanbul Medeniyet University Goztepe Education and Research Hospital, Istanbul, Turkiye

***Corresponding Author:** Samer Hussein Hadı Alhaddad, Istanbul Medeniyet University Goztepe Education and Research Hospital, Istanbul, Turkiye.

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Abstract

Trimodal therapy (TMT) is an established bladder-preserving approach for selected patients with muscle-invasive bladder cancer (MIBC). However, long-term complications related to radiation, repeated instrumentation, and urinary diversion devices may occur.

We report a 75-year-old male patient diagnosed with T2 high-grade urothelial carcinoma in April 2022. The patient declined radical cystectomy and underwent bladder-preserving treatment with gemcitabine-based chemotherapy and radiotherapy. During follow-up, he developed a distal ureteral stricture requiring long-term double-J (DJ) stenting and multiple endoscopic interventions.

In May 2026, the patient presented with generalized weakness. Following urethral catheterization, fecal material was observed draining through the catheter. Computed tomography revealed migration of the distal end of the left DJ stent into the colon, consistent with a colovesical fistula. Additionally, new-onset right-sided grade 2 and left-sided grade 3 hydronephrosis were detected.

The patient underwent urgent bilateral percutaneous nephrostomy placement for urinary diversion, and the migrated DJ stent was removed.

This case highlights a rare but serious late complication of bladder-preserving therapy, emphasizing the combined impact of radiation-induced tissue changes and chronic ureteral stenting. Clinicians should maintain a high index of suspicion for fistula formation in patients presenting with atypical urinary findings after long-term instrumentation.

Keywords: Trimodal Therapy; Muscle-Invasive Bladder Cancer; Double-J Stent; Colovesical Fistula; Radiation Complication; Nephrostomy

Introduction

Trimodal therapy (TMT), consisting of maximal transurethral resection followed by concurrent chemoradiotherapy, has emerged as a viable bladder-preserving alternative to radical cystectomy in selected patients with muscle-invasive bladder cancer (MIBC). While oncological outcomes in appropriately selected patients

are comparable to surgical management, TMT is associated with unique long-term complications, particularly those related to radiation-induced tissue damage.

Late adverse effects of pelvic radiotherapy include fibrosis, ischemia, and increased tissue fragility, which may predispose pa-

tients to fistula formation. In addition, repeated endoscopic interventions and long-term indwelling ureteral stents further increase the risk of urinary tract complications.

Colovesical fistula is a rare but serious condition, most commonly associated with diverticular disease, malignancy, or inflammatory bowel disease. Iatrogenic causes, including foreign body erosion such as ureteral stents, are exceedingly uncommon.

Herein, we present a rare case of colovesical fistula secondary to migration of a double-J stent in a patient previously treated with TMT for MIBC, highlighting the complex interplay between radiation effects and chronic instrumentation.

Case Presentation

A 75-year-old male patient with a history of hypertension and prior gastric ulcer surgery was diagnosed with muscle-invasive bladder cancer in April 2022. Transurethral resection of bladder tumor (TURBT) revealed T2 high-grade urothelial carcinoma, which was confirmed on repeat pathological evaluation. Staging with FDG-PET demonstrated focal hypermetabolic thickening (SUVmax 11.4) at the left posterolateral bladder wall without evidence of distant metastasis.

Following multidisciplinary evaluation, radical cystectomy was recommended; however, the patient declined surgical treatment. He subsequently underwent bladder-preserving trimodal therapy consisting of maximal TURBT followed by gemcitabine-based chemotherapy and radiotherapy, completed in December 2022.

During follow-up, imaging studies demonstrated persistent bladder wall thickening and progressive upper urinary tract changes. A contrast-enhanced abdominal MRI performed in May 2023 revealed grade 2 hydronephrosis of the left renal collecting system (Figure 1). Over time, the patient developed a distal left ureteral stricture requiring repeated endoscopic interventions and long-term double-J (DJ) stenting.

Between 2023 and 2025, the patient underwent multiple procedures, including repeat TURBTs, diagnostic ureteroscopies, ureteral dilatations, and periodic DJ stent placements. Histopathological examinations during this period predominantly demonstrated chronic cystitis and treatment-related changes. In November 2025, TURBT revealed non-muscle-invasive high-grade urothelial carcinoma (pTa HG).

The patient continued under close surveillance with periodic cystoscopic and radiological evaluations. In September 2025, cystoscopy demonstrated encrustation of the distal portion of the left DJ stent, which was subsequently managed with endoscopic intervention and replacement.

In May 2026, the patient presented to the emergency department with complaints of generalized weakness. Following insertion of a urethral Foley catheter, fecal material was observed draining through the catheter, raising suspicion for an enterovesical fistula.

Contrast-enhanced thoracoabdominal computed tomography revealed that the distal end of the left DJ stent had migrated into the colon. Additionally, new-onset right-sided grade 2 and left-sided grade 3 hydronephrosis were identified, consistent with bilateral obstructive uropathy (Figure 2).

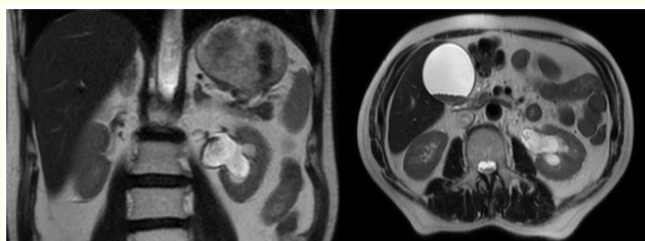


Figure 1: Contrast-enhanced abdominal magnetic resonance imaging demonstrating grade 2 hydronephrosis of the left renal collecting system, consistent with developing upper urinary tract obstruction during follow-up.

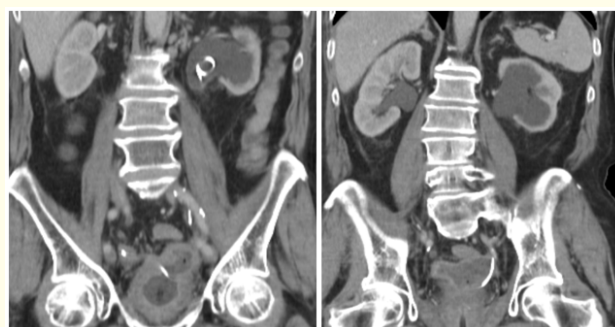


Figure 2: Contrast-enhanced thoracoabdominal computed tomography demonstrating migration of the distal end of the left double-J stent into the colon (arrow), consistent with colovesical fistula formation. Bilateral hydronephrosis is also observed, with grade 2 dilation on the right and grade 3 dilation on the left.

Management and Outcome

Given the presence of bilateral hydronephrosis and suspected enterovesical fistula, the patient underwent urgent bilateral percutaneous nephrostomy placement for upper urinary tract decompression.

Subsequently, the migrated left DJ stent was carefully removed via a transurethral approach. The distal end of the stent was noted to have eroded through the bladder wall into the adjacent colon, confirming the diagnosis of a colovesical fistula.

The patient was managed with urinary diversion via nephrostomies and close clinical monitoring. Broad-spectrum antibiotics were initiated to prevent infectious complications. Following intervention, the patient's clinical condition stabilized, and no signs of acute sepsis were observed.

At the time of reporting, the patient remains alive under close follow-up. Further management options, including definitive surgical repair of the fistula and long-term urinary diversion strategies, are under multidisciplinary evaluation.

Discussion

Trimodal therapy (TMT), consisting of maximal transurethral resection followed by concurrent chemoradiotherapy, is an established bladder-preserving treatment option for selected patients with muscle-invasive bladder cancer (MIBC). In appropriately selected patients, oncologic outcomes comparable to radical cystectomy have been reported. However, TMT is associated with unique long-term complications, particularly those related to radiation-induced tissue damage and repeated urological instrumentation.

Pelvic radiotherapy can lead to progressive microvascular injury, fibrosis, and tissue hypoxia, resulting in increased fragility of the bladder and surrounding structures. These changes may predispose patients to late complications such as strictures, necrosis, and fistula formation. In our case, the patient developed a distal ureteral stricture requiring long-term double-J (DJ) stenting and multiple endoscopic interventions, which likely contributed to chronic irritation and local tissue damage.

Colovesical fistula is a rare but serious condition, most commonly associated with diverticular disease, colorectal malignancy, or inflammatory bowel disease. Iatrogenic causes are less common

and typically occur following pelvic surgery or radiation therapy. Migration or erosion of ureteral stents into adjacent organs is exceedingly rare, with only a limited number of cases reported in the literature.

In the present case, the combination of prior radiotherapy, chronic indwelling DJ stent, and repeated instrumentation likely created a susceptible environment for fistula formation. The distal end of the stent gradually eroded through the bladder wall into the adjacent colon, resulting in a colovesical fistula. The presence of fecal material draining through the Foley catheter was a key clinical finding that prompted further investigation.

Another notable aspect of this case is the development of bilateral obstructive uropathy, with progression from unilateral hydronephrosis to bilateral involvement. This required urgent decompression with percutaneous nephrostomies, highlighting the importance of timely recognition and management of upper urinary tract obstruction in such patients.

Management of colovesical fistula depends on the underlying etiology, patient condition, and extent of disease. Initial stabilization with urinary diversion and infection control is critical. Definitive management often involves surgical repair; however, in patients with significant comorbidities or prior radiation, surgical intervention may be challenging and requires careful multidisciplinary planning.

This case underscores several important clinical points. First, long-term surveillance after TMT should not only focus on oncologic outcomes but also on treatment-related complications. Second, chronic ureteral stenting in irradiated tissues carries a risk of severe complications, including fistula formation. Finally, unusual clinical findings such as fecaluria should prompt immediate evaluation for enterovesical fistula [1-10].

Conclusion

We present a rare case of colovesical fistula caused by migration of a double-J stent in a patient previously treated with trimodal therapy for muscle-invasive bladder cancer. This case highlights the complex interplay between radiation-induced tissue changes and chronic urinary tract instrumentation.

Clinicians should be aware of this potential late complication, particularly in patients with long-term ureteral stents and a history of pelvic radiotherapy. Early recognition and prompt management are essential to prevent severe morbidity. Reporting such rare complications contributes to the growing body of literature and may help guide future management strategies in similar patients.

Bibliography

1. James ND, *et al.* "Radiotherapy with or without chemotherapy in muscle-invasive bladder cancer". *The New England Journal of Medicine* 366 (2012): 1477-1488.
2. Giacalone NJ, *et al.* "Long-term outcomes after bladder-preserving trimodality therapy for patients with muscle-invasive bladder cancer". *Journal of Clinical Oncology* 71.6 (2017): 952-960.
3. Efsthathiou JA, *et al.* "Long-term outcomes of selective bladder preservation by combined-modality therapy". *Journal of Clinical Oncology* 61.4 (2012): 705-711.
4. Siefker-Radtke AO. "Urachal carcinoma: surgical and chemotherapeutic options". *Expert Review of Anticancer Therapy* (2006).
5. Lawrentschuk N, *et al.* "Prevention and management of complications following urological procedures". *European Urology* 2.1 (2010): 49-59.
6. Cronin CG, *et al.* "Imaging of ureteral stent complications". *Radiographics* (2010).
7. Scozzari G, *et al.* "Enterovesical fistulas: diagnosis and management". *Techniques in Coloproctology* (2010).
8. Rafique M. "Ureteric stent complications: a review". *Journal of the Pakistan Medical Association* (2003).
9. Mohan HM, *et al.* "Colovesical fistula: a rare complication of pelvic interventions". *International Journal of Surgery Case Reports* (2013).
10. Patel U and Kellett MJ. "The complications of ureteric stents". *British Journal of Urology* (1994).