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CASE REPORT

Imaging

An unusual cause of small bowel obstruction: Migration of Foley catheter through enterovesicular fistula into the small bowel

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Abstract

Migration of a Foley catheter through an enterovesicular fistula is an extremely rare cause of small bowel obstruction. We present such a case in a 59-year-old female who presented to the emergency department with abdominal pain.

1 | INTRODUCTION

Enterovesical fistula, a communication between the gastrointestinal system and the urinary bladder, was first described in the literature by Cripps.[1] These fistulas most commonly occur between the bladder and colon as a complication of diverticulitis. Less commonly, they form in the setting of inflammation and tissue destruction secondary to malignancy of the urinary or gastrointestinal tracts, inflammatory bowel disease, and radiotherapy.[2,3] Frequently, nonsurgical management of enterovesicular fistula includes Foley catheter placement. We describe a case of small bowel obstruction secondary to Foley catheter migration through fistula tract into the small bowel resulting in mechanical small bowel obstruction. Such a case is extremely rare, with few cases reported in the literature.[4]

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2 | NARRATIVE

A 59-year-old female with a history of locally invasive bladder cancer complicated by obstructive uropathy requiring bilateral nephrostomy tubes and indwelling Foley catheter and known enterovesical fistula presented to the emergency department with 2 weeks of abdominal pain. She reported since her Foley catheter placement 2 months prior, she noticed fecal-like material in her Foley bag. Her nephrostomy tubes and Foley catheter had been exchanged 2 weeks prior to her presentation, and since that time she had noticed a foul smell and mucus in her urine. She also reported fecal incontinence with watery stool. She denied fevers or vomiting. On exam, the patient was afebrile and tachycardic. Abdominal exam elicited tenderness in the suprapubic region. The Foley catheter bag was noted to have clear urine.

Laboratory analysis demonstrated a white blood count (WBC) of 8.2. A computed tomography scan of her abdomen and pelvis

FIGURE 1 Coronal view of computed tomography scan of the abdomen and pelvis, demonstrating the Foley catheter passing within the bladder.

FIGURE 2 Coronal view on computed tomography scan of the abdomen and pelvis, demonstrating the Foley catheter passing through the enterovesicular tract into the small bowel.

demonstrated a small bowel obstruction secondary to migration of the Foley catheter from the bladder through an enterovesicular fistula into the small bowel (Figures 1 and 2). Approximately 15 cm of the catheter tubing was present in the proximal small bowel, with significant proximal small bowel dilatation.

The urology service was consulted and ultimately the urologist gently removed the catheter without complication. The patient was admitted to the hospital overnight for close monitoring and given antibiotics. The urologic team did not recommend any further surgical interventions, and instead recommended the patient complete chemotherapy with her oncologist. The patient was discharged the following day without complication and with complete resolution of her small bowel obstructive symptoms.

3 | DISCUSSION

Enterovesical fistulas are more common in individuals over 70 years old and in males, likely due to the separation of the colon and bladder by the uterus in females, which is affirmed by the finding that over half of the female patients who experience this complication have a history of prior hysterectomy.[5] The most common presentation that leads individuals with enterovesical fistulas to seek medical care is recurrent urinary tract infection, which has been reported in 80% of patients. Fecaluria and pneumaturia, the pathognomonic features of enterovesical fistula, occur in 50%–100% of patients.[5,6]

The most utilized and most sensitive imaging modality for diagnosing enterovesical fistulas is computed tomography, which enables visualization of bladder wall thickening, air or contrast in the bladder, or a catheter passing through the fistula, as in our case. Cystoscopy has also been demonstrated to be a reliable diagnostic procedure, allowing for direct visualization of the fistula.

Until recently, the typical management of enterovesical fistula was surgical, due to the risk of recurrent urinary tract infections and renal failure.[5] However, more recent studies have revealed that patients managed conservatively have comparable outcomes to patients managed surgically.[7] Patients who develop enterovesical fistulas are often elderly and have multiple comorbidities, making medical therapy a reasonable, and in some cases, safer option for management. Surgery is generally reserved for those patients with severe complications, including recurrent urinary tract infections or sepsis.[8] Due to our patient's clinical stability and significant comorbidities including active invasive bladder malignancy, she was managed with prophylactic

antibiotics and close follow up to reduce the risk of urinary tract infection and was recommended to continue following with her oncologist for management of the causative malignancy via chemotherapy.

Urethral catheter drainage is often used for conservative management of enterovesical fistula to mitigate the overflow of urine through the fistula into the gastrointestinal tract.[7] However, our case demonstrates that placement of a urinary catheter can also complicate enterovesical fistula by migrating into the bowel and result in small bowel obstruction. Emergency physicians must take care when managing patients with known enterovesical fistulas with Foley catheters in place and be aware of this rare but serious complication.

CONFLICT OF INTEREST STATEMENT

The authors report no conflicts of interest.

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