

Case Report

Orthotopic neobladder perforation: an unusual presentation of small bowel obstruction

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Orthotopic bladder reconstruction is becoming increasingly popular in patients who have undergone radical cystectomy. One of the rare complications is spontaneous rupture, which presents with various symptoms, but in particular, abdominal pain. We report a case of orthotopic bladder perforation in a patient who presented with the symptoms and signs of small bowel obstruction.

INTRODUCTION

Historically, ileal conduit formation following radical cystectomy has been the preferred type of urinary diversion. More recently, orthotopic bladder reconstruction has become increasingly popular, affording patients continence, maintaining as much normal voiding function as possible, with a more desirable body image and good quality of life [1–3].

One of the rare but serious complications of neobladder formation is spontaneous rupture. Such cases present in different manners with the overriding symptom being abdominal pain. We report a case of orthotopic neobladder perforation presenting with features of bowel obstruction.

CASE REPORT

A 71-year-old male had undergone a radical cystectomy and orthotopic neobladder formation 5 years previously, and was self-catheterising. He presented to the emergency department with a 24-h history of abdominal pain and distension. There was associated nausea and a reported decrease in urine production. Examination revealed a distended abdomen with some lower abdominal tenderness but no evidence of peritonism. Bowel sounds were absent. Relevant blood analysis revealed creatinine 354 $\mu\text{mol/l}$, WCC $15.9 \times 10^9/\text{l}$ and CRP > 380. An abdominal X-ray revealed dilated small bowel loops, and a CT showed moderate volume ascites and distal small bowel obstruction with the transition being a

thickened small bowel loop lying next to the neobladder (Fig. 1).

Conservative management was instituted (catheter, nasogastric tube) for presumed adhesional obstruction, and the patient was admitted under the care of the general surgical team. The urology team were contacted in light of the CT findings, and as the patient had not improved over a 24-h period, a decision was made to proceed with an exploratory laparotomy.

At surgery, there was a large amount of turbid urinary ascites, and the offending loop of small bowel seen on the CT was found to be stuck to a 5 mm perforation in the neobladder, at the junction of the afferent limb and the pouch. This was oversewn with an omental patch. The patient made a good recovery, creatinine normalized to 95 $\mu\text{mol/l}$, bowel function returned to normal and a cystogram at 10 days did not show any evidence of a leak.

DISCUSSION

Ileal neobladder perforation represents a rare but grave complication in such patients. A number of previous cases have been summarized by Ascaso *et al.* [4]. We describe a case of a previously unreported presentation of small bowel obstruction. Presenting features generally include fever and anuria, with abdominal pain being the main symptom. Possible causes of spontaneous rupture include overdistension, adhesions causing tearing of the neobladder wall and blunt trauma. In



Figure 1: CT scan showing transition point of dilated bowel lying adjacent to the neobladder.

the vast majority of cases, exploratory laparotomy and repair is required; however, there have been two reported cases of successful conservative management [5, 6]. In this case, a segment of ileum became adherent to the neobladder, leading to bowel obstruction. It is difficult to postulate whether the adhesion caused tearing of the neobladder, or spontaneous

rupture occurred first leading to subsequent adherence of the ileum.

This case highlights the importance of early urological input and a high index of suspicion of neobladder perforation in any such patient with abdominal symptoms, regardless of their nature.

REFERENCES

1. Madersbacher S, Möhrle K, Burkhard F, Studer UE. Long-term voiding pattern of patients with ileal orthotopic bladder substitutes. *J Urol* 2002;**167**:2052–7.
2. Meyer JP, Blick C, Arumainayagam N, Hurley K, Gillatt D, Persad R, et al. A three-centre experience of orthotopic neobladder reconstruction after radical cystectomy: revisiting the initial experience, and results in 104 patients. *BJU Int* 2009;**103**:680–3.
3. Dutta SC, Chang SC, Coffey CS, Smith JA, Jr, Jack G, Cookson MS. Health related quality of life assessment after radical cystectomy: comparison of ileal conduit with continent orthotopic neobladder. *J Urol* 2002;**168**:164–7.
4. Ascaso Til H, Segarra Tomás J, De la Torre Holguera P, Monllau Font V, Palou Redorta J, Villavicencio Mavrich H. Recurrent rupture of an ileal neobladder: conservative management. *Actas Urol Esp* 2007;**31**:279–84.
5. Gupta NP, Nabi G, Ansari MS. Conservative management of spontaneous rupture of a sigmoid colon neobladder. *Urol Int* 2002;**69**:325–6.
6. Parsons JK, Schoenberg MP. Successful conservative management of perforated ileal neobladder. *J Urol* 2001;**165**:1214–5.