

A Rare and Serious Complication of Elective Suprapubic Catheter Change

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ABSTRACT

Suprapubic catheter (SPC) insertion is a commonly performed elective or emergency procedure in urology. SPC change is a simple process that is typically completed in the primary care office in the United Kingdom. Urinary tract infection, hemorrhage, and injury to adjacent intraabdominal organs are potential complications. The authors present a case of inadvertent bowel injury following elective SPC change. They recommend techniques to prevent this complication.

KEYWORDS: Suprapubic catheter; Delayed bowel injury

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INTRODUCTION

Suprapubic catheter (SPC) insertion is a commonly performed elective or emergency procedure. Changing the catheter is a simple process that is commonly performed in the primary care office in the United Kingdom (UK). Urinary tract infection, hemorrhage, and injury to adjacent intraabdominal organs are potential complications. The authors present a case of inadvertent bowel injury following elective change of the SPC.

CASE HISTORY

An 80-year-old male with a long-term SPC presented to the emergency department, 8 hours following a routine SPC change in a physician's office. There were no documented complications or problems with the SPC change prior to presentation. The patient had feculent matter draining from the SPC and generalized malaise.

The SPC was initially inserted 8 months prior to this presentation under direct vision with a cystoscope. The

patient was under general anesthesia for an atonic bladder, which had developed after failure of a urethral catheter. A paraumbilical hernia repair was performed simultaneously. Other past history included bladder neck incision, transurethral resection of the prostate, chronic obstructive airway disease, and hyperthyroidism.

On examination, the patient was afebrile and hemodynamically stable. The abdomen was soft and the suprapubic catheter was in situ with feculent material in the catheter bag. Hematological investigations revealed an elevated white cell count of $15 \times 10^9/L$ and a C-reactive protein of 36 IU. A liver function test, renal function test, amylase, and thyroid function test were within normal limits. Erect chest and supine abdominal X-rays were unremarkable. The patient was placed on intravenous antibiotics. A control X-ray of the pelvis (Figure 1a) and a fistulogram (Figure 1b) confirmed that the catheter tip was placed within the caecum.

An emergency laparotomy showed that the suprapubic catheter had migrated proximally up to the small bowel. There was extensive pressure necrosis of the bowel associated

Figure 1a. X-ray of Pelvis (Control Film).

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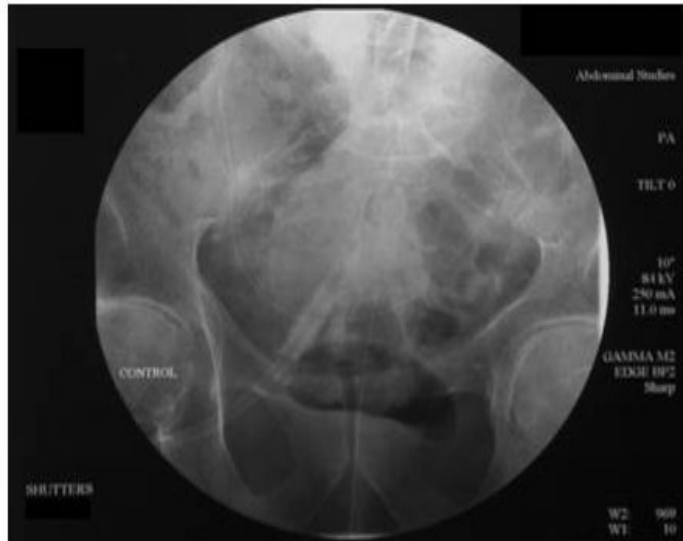


Figure 1b. Fistulogram Showing the Contrast Reaching the Caecum. doi: 10.3834/uj.1944-5784.2009.12.06f1b



with a deep puncture in a solitary loop of small bowel. These problems resulted in gross intraperitoneal contamination with bowel contents.

A right hemicolectomy with resection of the distal 2/3rds of small bowel and a primary jejunocolic anastomosis were performed. Histology confirmed traumatic ulceration of the bowel. Postoperatively, the patient recovered well. Unfortunately, his mobility was restricted because of his poor respiratory reserve. He developed postoperative pneumonia. In spite of aggressive IV antibiotic therapy and physiotherapy, he died on the 26th postoperative day.

DISCUSSION

Change of the SPC is a routine procedure that is rarely associated with complication. One case of bowel injury following change of a catheter has been reported in the literature [1]. The patient had a previous abdominoperineal resection of the rectum, and laparotomy revealed a loop of bowel adhering to the old scar. The authors suggested that the catheter had passed through this loop of bowel and into the bladder during the initial insertion, but this problem was only clinically evident after the catheter change.

Patients with previous laparotomy are at an increased risk due to the frequent development of adhesions [2]. Hebert et al [3] postulated that rapid instillation of saline in the bladder,

which is commonly used to aid SPC insertion, may reflect the bladder high enough to trap a loop of bowel against the abdominal wall. They suggested that the patient should be in the Trendelenberg position before the bladder distension. The Seldinger technique uses a guidewire for changing the SPC [4]. In this technique, the currently placed SPC is used to fill the bladder with 100 mL of sterile water. A guidewire is then passed through the current SPC into the bladder. The SPC is removed, keeping the guidewire in place. A new SPC is then placed over the guidewire.

In the present case, the routine change of the catheter was associated with significant bowel injury. The patient did not have any previous laparotomy and the bowel was not adhering to the abdominal wall. The cause of the bowel perforation remains unclear.

In conclusion, although elective suprapubic catheter change is a simple procedure, there is a potential risk of bowel injury that is significantly increased in patients with previous laparotomy. A cautious approach is warranted in this group of patients.

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