Case report

Suprapubic catheter change resulting in terminal ileal perforation

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ABSTRACT

Suprapubic cystostomy is commonly performed in patients with neurogenic bladder or bladder outlet obstruction. The most serious complication is bowel injury, which usually occurs during catheter insertion. Bowel perforation during suprapubic catheter exchange is rare. We herein report an extremely rare case of terminal ileal perforation resulting from a change of suprapubic catheter. After insertion of the suprapubic catheter, a feculent material was noted in the terminal ileum. A cystography revealed that the contrast medium passed directly into the terminal ileum and colon. A computed tomographic scan confirmed the presence of a balloon tip in the terminal ileum. Terminal ileum perforation was diagnosed. Emergent laparotomy and loop ileostomy were performed. The patient’s recovery was uneventful.

1. Introduction

Suprapubic cystostomy is commonly used for long-term bladder drainage in patients with bladder dysfunction or voiding problems. It is considered a safe procedure due to a low incidence of complications. Bowel injury is the most serious sequela and usually occurs during initial placement. We herein present a rare case of misplacement of suprapubic catheter into the terminal ileum during suprapubic catheter exchange.

2. Case report

A 77-year-old man with a history of hepatocellular carcinoma and neurogenic bladder underwent a monthly change of suprapubic cystostomy catheter three times after the initial placement. He was brought to the emergency department for urinary catheter blockage. After the catheter exchange, drainage of a feculent material was immediately observed. He developed worsening abdominal pain after 4 hours. There was no urine drainage from the suprapubic catheter and urine leakage from urethra orifice was noted. He developed septic shock within 24 hours. Enterovesical fistula was impressed initially. A cystogram through a suprapubic catheter showed contrast medium passed immediately into the terminal ileum and colon without fistula formation (Fig. 1). A computed tomography scan subsequently demonstrated the presence of the balloon tip in the cecum (Fig. 2). An exploratory laparotomy confirmed the site of perforation. Adhesion of the terminal ileum to the anterior abdominal wall below the puncture site and penetration of the terminal ileum up to the area of cecum by the Foley catheter were observed (Fig. 3). Subsequently, loop ileostomy was performed instead of primary closure because of the patient’s poor performance. No surgery-related complications were noted during hospitalization.

3. Discussion

Suprapubic cystostomy is a common urologic procedure used for the management of neurologic bladder and bladder outlet obstruction. It is considered a safe procedure with a low incidence of complication.

Typically, complications are minor, such as catheter-related infection, bleeding, and obstruction. Bowel injury, including small bowel obstruction, small bowel perforation, and colon perforation, is the most serious complication. Sheriff et al and Ahluwalia et al reported a 2.7% and 2.4% incidence of bowel injury, respectively.1,2 Bowel perforation almost always occurs at the time of tube insertion and very rarely happens during catheter exchange. A review of the literature reveals only three cases of bowel injury at catheter exchange, including sigmoid, cecum, and terminal ileum injury.3–5 The aforementioned cases had undergone catheter exchange periodically prior to the iatrogenic bowel injury. In this case, ileal...
perforation was noted during the fourth exchange. Iatrogenic bowel injury is a recognized complication of percutaneous suprapubic cystostomy. Early signs and symptoms include poor drainage of suprapubic catheter and abdominal discomfort. A cystogram and an abdominal computed tomography can confirm the misplacement of a catheter. An exploratory laparotomy or laparoscopic resection of representative segments of bowel is the recommended treatment. In this case, the suprapubic catheter was inserted by a resident without the use of an instrument to assist with placement. There was no resistance during indwelling of the catheter. As shown in the case presented herein, even in patients who receive a change of suprapubic catheter periodically, a serious complication can still occur, and thus our case serves as an important reminder that the placement of the suprapubic catheter must be performed with extreme care. Early detection of bowel injury is the best way to prevent serious complications. It is therefore imperative that bowel perforation be ruled out in a patient with abdominal pain and poor drainage of suprapubic catheter after indwelling of a suprapubic catheter.

Conflicts of interest

The authors declare that they have no financial or non-financial conflicts of interest related to the subject matter or materials discussed in the manuscript.

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References