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Ileal strangulation by a secondary perineal hernia after laparoscopic abdominoperineal rectal resection: A case report



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ABSTRACT

INTRODUCTION: We report a recent case of strangulated bowel obstruction due to an incarcerated secondary perineal hernia that developed after laparoscopic rectal resection.

PRESENTATION OF CASE: A 75-year-old man undergoing treatment for alcoholic cirrhosis underwent laparoscopic abdominoperineal resection of the rectum (APR) for lower rectal cancer after preoperative chemoradiotherapy. Lung metastases were diagnosed 2 months postoperatively. Ten days after chemotherapy initiation, the patient was hospitalized on an emergency basis due to hepatic encephalopathy. Ten days thereafter, we observed perineal skin protrusion. Moreover, the skin disintegrated spontaneously, resulting in ascetic fluid outflow. Pain and fever developed, with inflammatory reactions. Contrast-enhanced computed tomography showed strangulated small bowel obstruction due to perineal hernia. We performed an emergency surgery, during which we found small intestine wall incarcerated in the pelvic dead space, with thickening and edema; no necrosis or perforation was observed. We performed internal fixation by introducing an ileus tube into the ileocecum and fixing its balloon at the cecal terminus.

DISCUSSION: Secondary perineal hernia is rare and can develop after APR. Its prevalence is likely to increase in future because of the increasing ubiquity of laparoscopic APR, in which no repair of peritoneal stretching to the pelvic floor is performed. However, only two case of secondary perineal hernia causing strangulated bowel obstruction has been reported in the literature. The follow-up evaluation of our procedures and future accumulation of cases will be important in raising awareness of this clinical entity.

CONCLUSION: We suggest that the pelvic floor and the peritoneum should be repaired.

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1. Introduction

Secondary perineal hernia is thought to develop after approximately 1% of abdominoperineal resections of the rectum (APRs) and 3–10% of pelvic malignant tumor resections, indicating that it is a rare condition [1]. Herein, we report a recent case of strangulated bowel obstruction due to an incarcerated secondary perineal hernia that developed after laparoscopic rectal resection. We accompany our observations with a brief review of the current literature.

2. Presentation of case

A 75-year-old man presented to our institution with perineal bulging, spontaneous perineal skin disintegration and fluid leakage, and fever. His medical history included alcoholic cirrhosis (Child-Pugh score = B) at 61 years of age and a left inguinal hernia at 67 years of age, for which he underwent surgery.

History of the reported illness was as follows: 14 months prior to the development of strangulated bowel obstruction, the patient had undergone laparoscopic APR after preoperative chemoradiotherapy (1.8 Gy for 28 sessions, S-1(Tegafur/Gimeracil/Oteracil) 100 mg/day) for progressive lower rectal cancer. The final disease stage was RbP, pT3, N1, cH0, cM0, stage IIIa. Multiple lung metastases were diagnosed on contrast-enhanced computed tomography 2 months postoperatively. Ascites due to cirrhosis were seen below the skin of the perineal wound. After preventive endoscopic ligation of the esophageal varices caused by alcoholic cirrhosis, modified FOLFOX-6 was started to treat the lung metastases approximately 5 months after APR. Because the patient developed hepatic encephalopathy due to alcohol intake 10 days after treatment, he was hospitalized on an emergency basis. He was then treated with bed rest, the administration of a branched-chain amino acid preparation. However, 10 days after admission, protrusion of the peritoneal skin was observed with spontaneous disintegration, resulting in the outflow of ascetic fluid the next day and pain and fever the following day. Blood examination revealed an increase of inflammatory reactions, and contrast-enhanced computed tomography revealed invagination of the small intestine

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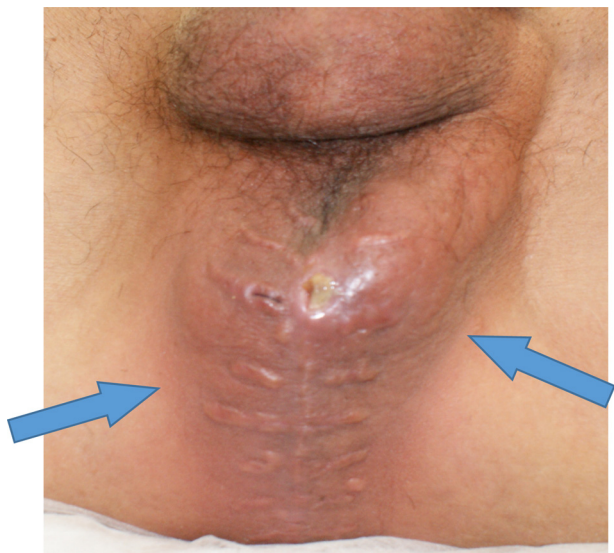


Fig. 1. Preoperative photo showing large perineal swelling (arrows) in the lithotomy position.

in the pelvic cavity, intestinal edema, and attenuation of the contrast effect. Therefore, we diagnosed him with strangulated small bowel obstruction due to perineal hernia.

A fist-sized mass was detected in the perineum. The mass was soft, and could be easily repositioned (Fig. 1). Abdominal contrast-enhanced computed tomography revealed a hernia in the perineum after APR, and prolapse of the small intestine from the level of the pelvic floor muscle was also observed (Fig. 2). We diagnosed the patient with a secondary perineal hernia, and he underwent surgery under general anesthesia.

Surgical findings included the following: the small intestine was pulled back from the incarceration in the pelvic cavity, revealing thickening of and edema on the wall but no necrosis or perforation. For this reason, no intestinal resection was performed (Fig. 3). To prevent recurrence, we chose internal fixation. We introduced an ileus tube into the cecum and inflated its balloon at the cecal terminus to keep the position (Fig. 4).

After surgery, the pelvic dead space was infected, which was managed with drainage. He experienced no recurrence of hernia to date (six months postoperatively).

This case report was written in accordance with the SCARE Guidelines [2].

3. Discussion

Perineal hernias are classified as either primary [1], which occur due to vulnerability of the pelvic floor muscles, or secondary, which occur due to surgery in the peritoneal cavity, including that performed for rectal cancer. Secondary perineal hernias after rectal resection for rectal cancer were reported for the first time in 1939 by Yeomans [3]. In addition, perineal hernia due to laparoscopic APR was reported for the first time in 2007 by Veenhof [4]. Our recent search of the PubMed database with the keywords “perineal hernia” from January 1989–May 2016 yielded only two previous case reports of perineal hernia that led to a strangulated bowel obstruction; though reports of secondary perineal hernia after laparoscopic APR are increasing. Our report therefore is the third of its kind in the literature. Table 1 summarizes the two reported cases; including the details of the present case [5,6]. It is thought that the development of secondary perineal hernia within 1 year postoperatively is common [1]. In three cases; the hernia developed after an average of 10 months postoperatively. Factors associated with the development of secondary perineal hernia that have been discussed include the presence of large mesentery allowing invagination [7]; the presence or absence of coccygectomy [8];

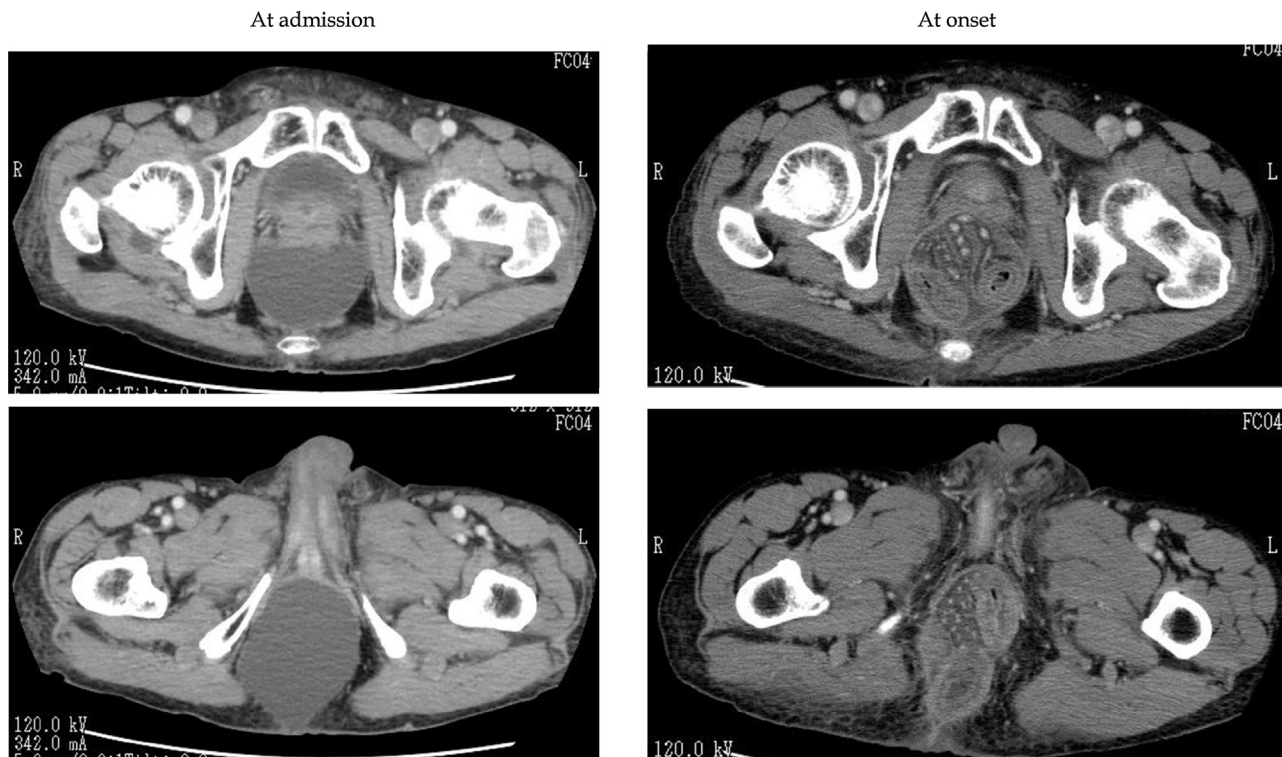


Fig. 2. Computed tomography image of the pelvis demonstrating a strangulated perineal hernia.

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