

Transmesenteric Hernia after Laparoscopic-Assisted Sigmoid Colectomy

Yutaka J. Kawamura, MD, PhD, Eiji Sunami, MD, Tadahiko Masaki, MD, PhD,
Tetsuichiro Muto, MD, PhD

ABSTRACT

Background and Objectives: Laparoscopic-assisted surgery has been applied for a variety of colonic surgery. The objective of this paper is to demonstrate a possible and avoidable complication of laparoscopic colonic surgery.

Case Presentation: A 47-year-old woman underwent gasless laparoscopic-assisted sigmoid colectomy. On the 20th postoperative day, she developed bowel obstruction. Decompression with a long tube failed to resolve the bowel obstruction. Open laparotomy was performed. Abdominal exploration revealed a loop of the small bowel incarcerated in the mesenteric defect caused by the previous operation. Adhesiolysis was performed, and the postoperative course was uneventful.

Discussion: Despite technical difficulty, complete closure of the mesentery after bowel resection is strongly recommended for prevention of transmesenteric incarcerated hernia after laparoscopic surgery.

Key Words: Laparoscopic surgery, Hernia, Complication, Mesentery.

INTRODUCTION

Bowel obstruction is a complication which is not uncommon after laparoscopic colectomy. Previous studies have reported incidences of 0.8-2.5%.¹⁻³ In most cases, the cause of the bowel obstruction is an incarcerated Richter's hernia in the trocar site. Here we report a case with a transmesenteric hernia after laparoscopic sigmoid colectomy in which a loop of small bowel was incarcerated in a surgery-related mesenteric defect.

CASE REPORT

A 47-year-old woman was admitted to our hospital for surgical treatment of sigmoid colon cancer. Barium enema and colonoscopic study demonstrated a 1.5 cm x 1.8 cm polypoid lesion in the sigmoid colon (**Figure 1**). Biopsy revealed well-differentiated adenocarcinoma. Based on a diagnosis of submucosal cancer, laparoscopic-assisted sigmoid colectomy was selected for the optimal treatment. The operation was performed with curative intent using a gasless technique (**Figure 2**) previously described.⁴ Anastomosis was undertaken using the double stapling method. Lymph node dissection with low ligation of the inferior mesenteric artery was performed simultaneously. The mesenteric defect resulting from bowel resection was not completely closed because of technical difficulty. **Figure 3** shows the resected specimen. Pathological examination revealed submucosally invasive cancer without lymph node involvement.

On the 20th postoperative day, the patient developed abdominal distension, nausea and vomiting. Plain abdominal X-ray films demonstrated a small bowel obstruction. A decompression tube (long tube) was inserted, and, on the 26th postoperative day, the bowel obstruction showed improvement. However, after initiating liquid meals, the patient again developed bowel obstruction. Abdominal X-rays after ingestion of contrast medium showed a severely dilated small bowel (**Figure 4**). The anal edge of the dilated loop was located near the anastomosis, and laparotomy was performed. Abdominal exploration revealed a dilated loop of small bowel incarcerated within the mesenteric defect. Adhesiolysis was performed. The postoperative course

Department of Surgical Oncology, The University of Tokyo
7-3-1 Hongo Bunkyo-ku, Tokyo 113-8655 Japan

Address reprint request to: Yutaka J. Kawamura MD, PhD, First Department of Surgery, The University of Tokyo, 7-3-1 Hongo Bunkyo-ku, Tokyo 113-8655 Japan.
Telephone: +81-3-3815-5411 ext. 3246, Fax: +81-3-3811-6822

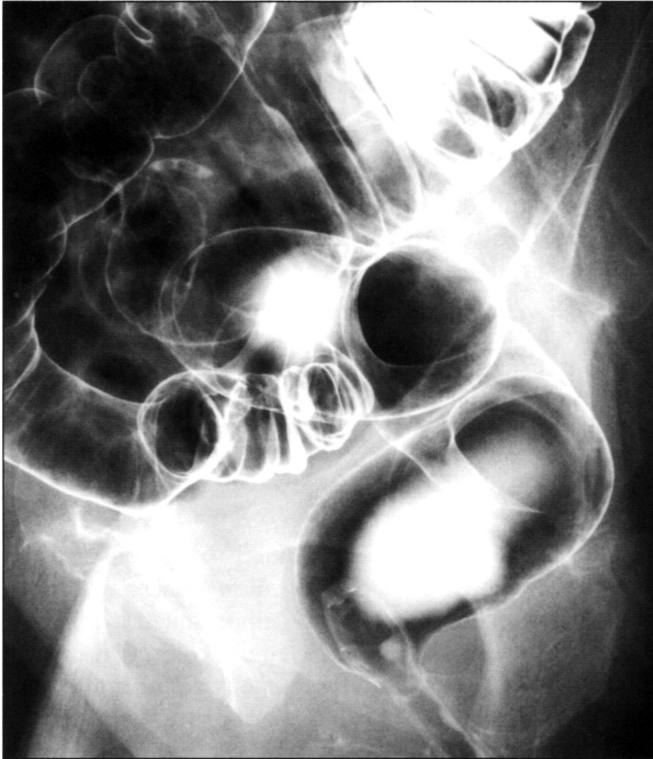


Figure 1. Barium enema finding. Barium enema study demonstrated a 1.5 cm x 1.8 cm polypoid lesion.

was uneventful, and the patient was discharged on day 21 after the second procedure.

DISCUSSION

Laparoscopic approaches to colonic malignancies have gained acceptance for selected patients as a new, minimally invasive therapeutic modalities. The incidence of bowel obstruction after laparoscopic colectomy is reported to be 0.8-2.5%.¹⁻³ The most frequent cause of the bowel obstruction is Richter's hernia at the trocar site. Such conditions have been reported after gastroenterological as well as urologic and gynecological laparoscopic operations.⁵⁻¹² To prevent Richter's hernia, fascial closure has been recommended, even for 5 mm trocar sites.⁷

Vanclooster¹³ and Tsang¹⁴ reported cases developing hernia after laparoscopic herniorrhaphy in which a loop of small bowel became incarcerated in the incompletely

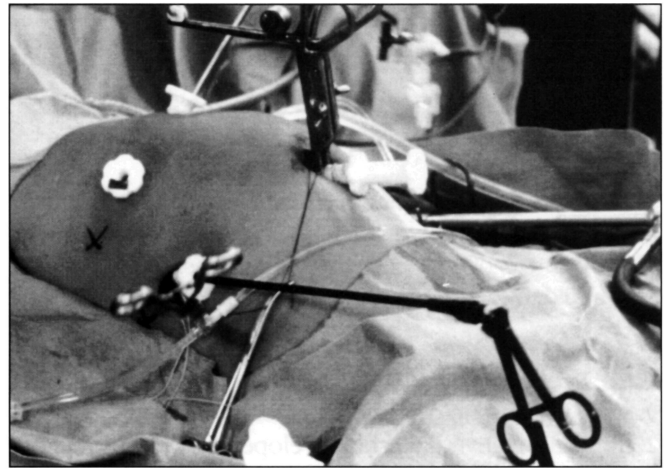


Figure 2. Gasless laparoscopic-assisted sigmoid colectomy.

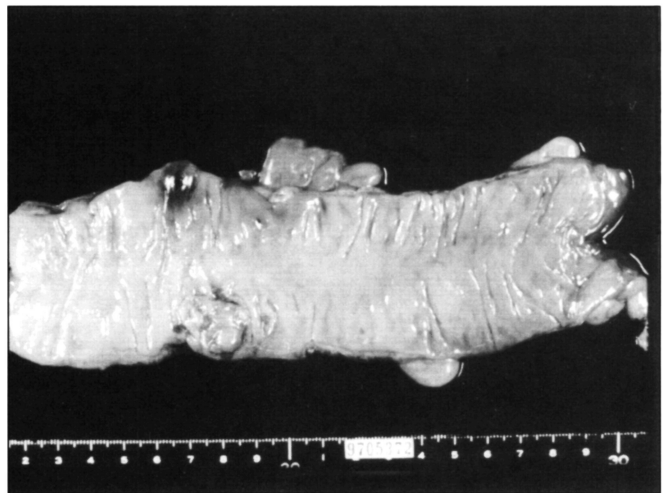


Figure 3. Resected specimen. Pathological examination revealed a well differentiated submucosal invasive cancer.

closed peritoneum. In this case, which to our knowledge is the first case in the literature, a loop of small bowel became incarcerated in the incompletely closed mesentery. Closure of the mesentery after bowel resection is sometimes very difficult due to the limited operative field, especially at the most proximal portion of the mesentery. However, this case strongly suggests the need for complete closure of the mesentery to prevent bowel incarceration. Meticulous suturing or clipping

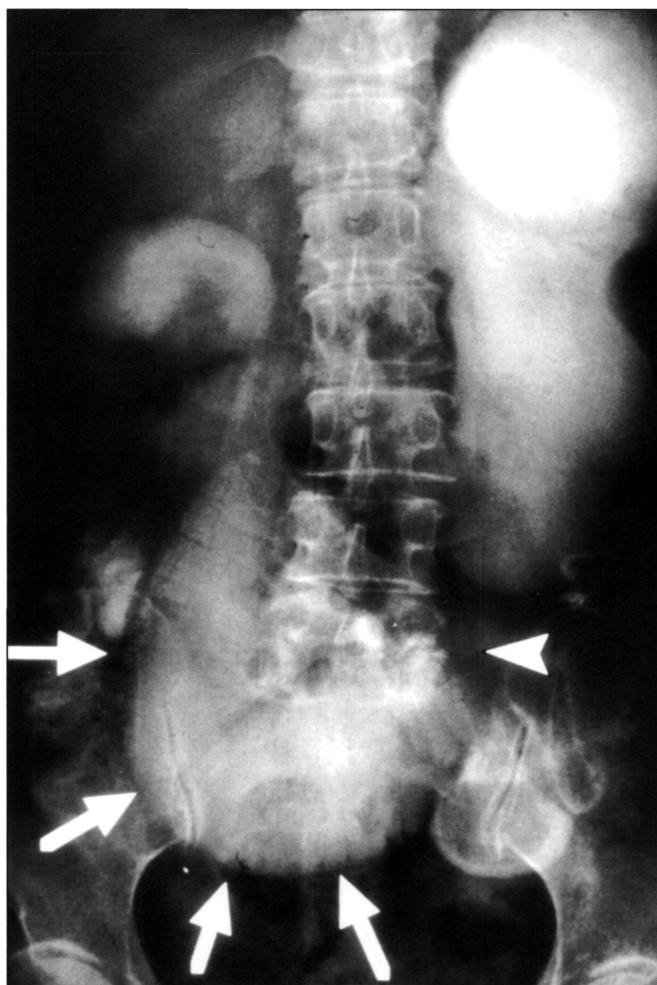


Figure 4. Abdominal X-ray after ingestion of contrast medium. A dilated loop of the small bowel is indicated by arrows. The anastomotic site is identified by the staples, as indicated by the arrowhead.

should be performed to avoid transmesenteric hernia after laparoscopic colectomy.

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