

Rescue therapy with over-the-scope clip closure for a large postoperative colonic leak

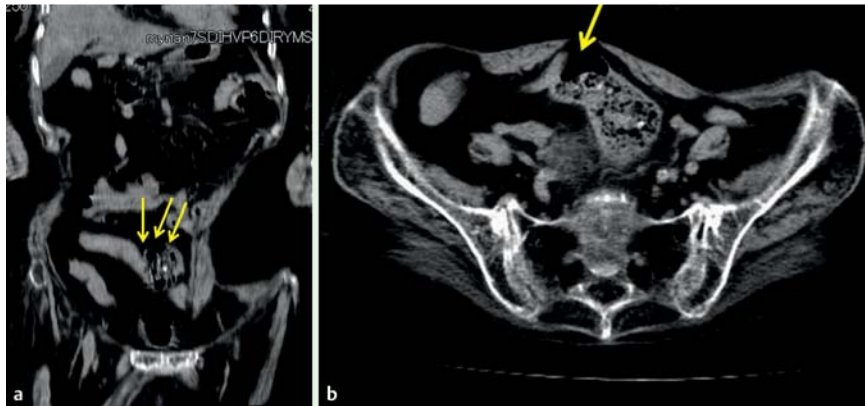


Fig. 1 Computed tomography (CT) scan in a 78-year-old woman who had undergone emergency open surgery 7 days previously, involving resection of the descending colon, creation of a transverse colostomy, and closure of the blind sigmoid colon, showing a suspected leak at the functional anastomotic site of the blind sigmoid (yellow arrows) in: **a** coronal view; and **b** axial view.

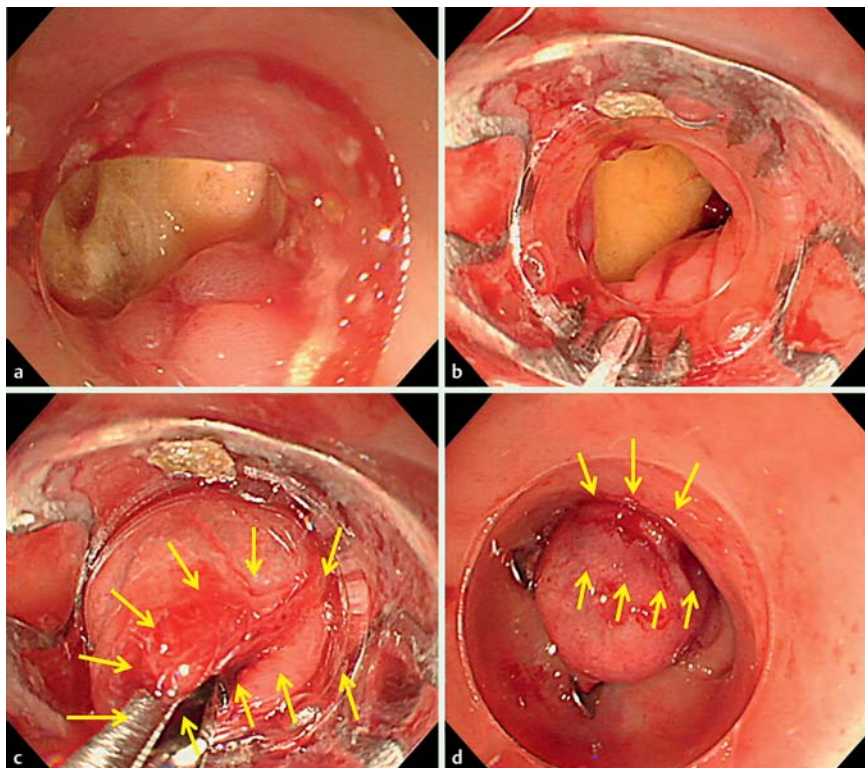


Fig. 2 Endoscopic views showing: **a** dehiscence of the anastomotic site in the blind sigmoid colon, with the mesentery visible through the defect; **b** the appearance of the mesentery following repeated peritoneal lavage with 4–5 L of lukewarm saline and continuous suction on the drain; **c** the dehiscence being closed with an over-the-scope clip using the Twin Grasper to place the clip at a site with a rich blood flow; **d** the appearance of the sigmoid colon after closure of the fistula and dilation of the lumen with air to exclude any further leakage.

Most reports on the closure of postoperative leaks and fistulas using over-the-scope clips (OTSCs; Ovesco Endoscopy GmbH, Tübingen, Germany) involve the upper gastrointestinal tract [1]. There are few reports on the closure of leaks in the lower gastrointestinal tract [2, 3].

A 78-year-old woman was admitted urgently with sudden-onset abdominal pain and a fever of 40 °C. A plain abdominal computed tomography (CT) scan revealed peritonitis due to perforation of diverticulitis in the descending colon. Emergency open surgery involving resection of the descending colon, creation of a transverse colostomy, and closure of the blind sigmoid colon was performed.

The patient developed abdominal pain on the left lower side on day 7, and a leak at the functional anastomotic site of the blind sigmoid was suspected on a repeat CT scan (► Fig. 1). She developed disseminated intravascular coagulation, and reoperation was deemed risky. The drain used during open surgery was placed at the pouch of Douglas and the left dorsal and infradiaphragmatic sites.

Colonoscopy of the blind sigmoid colon was performed without air insufflation and the lumen was lavaged with lukewarm saline (2 L). A dehiscence of the anastomotic site, approximately 15 mm in diameter, was observed (► Fig. 2a). Peritoneal lavage with saline (4–5 L) was performed, while continuous suction was applied through the drain. The endoscope was removed after the lumen of the sigmoid colon had been relavaged with saline (2 L). The OTSC was attached to the endoscope, which was inserted to the area of the dehiscence. There was no evidence of liquid stool around the mesentery after lavage (► Fig. 2b).

To prevent further leakage, the OTSC was then placed as a seromuscular suture (► Fig. 2c; ► Video 1): the mucosa of the normal anal sigmoid colon located 10 mm from the margins of the dehiscence was grasped using a Twin Grasper and the mucosa around the fistula, which had a poor blood flow, was pulled back into the gut

Video 1

The suturing procedure used to prevent further leakage from the sigmoid colon.

lumen, so that an area with a rich blood flow was closed by the clip.

After closure, the sigmoid colon was dilated thoroughly via air insufflation, with no air leak from the drain being observed (● Fig. 2d). After OTSC closure, the results of the patient's blood tests and her general condition improved.

Closure using an OTSC after adequate lavage with lukewarm saline in the abdominal cavity and intestinal tract appears effective as rescue therapy for a large postoperative colonic leak.

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