

Safe percutaneous endoscopic colostomy for severe constipation with use of the introducer method

Percutaneous endoscopic colostomy (PEC) has been established as an alternative method of intestinal decompression and irrigation for chronic intestinal pseudo-obstruction, relapsing sigmoid volvulus, neurogenic bowel, and constipation [1]. However, the thin, distended colonic wall can easily be torn during creation of the PEC with the pull method, and inadvertent traction of the PEC tube and colonic peristalsis can occur. By using an introducer method, we successfully prevented these complications.

A 92-year-old man had relapsing slow-transit constipation (▶ Fig. 1a) without constant care by the medical staff. Hoping to be able to manage defecation conveniently with nonmedical care, he underwent

PEC (▶ Fig. 2): (i) full distension of the working space in the sigmoid colon; (ii) four-point square fixation of the colon to the peritoneal wall by four sutures made with the Funada percutaneous endoscopic gastrostomy (PEG) kit (Create Medic Co., Kanagawa, Japan) under colonoscopic transillumination; and (iii) puncture of the needle introducer of the tube in the center of the fixation and replacement of the PEC tube with a button-type gastrostomy (▶ Fig. 3). Computed tomography revealed the collapsed sigmoid colon without unnatural stretching and bending, and without the migration of visceral organs (▶ Fig. 1b, c). Thus, PEC effectively achieved colonic decompression and irrigation for more than 10 months.

There are several contraindications to PEC that are similar to the contraindications to PEG, such as inability to pass the colonoscope, failure of transillumination, and the presence of bulky ascites [2]. Several reports have described frequent minor and several severe complications, such as bleeding and fecal leakage [3]; these occur during retraction of the colon from the abdominal wall [4] owing to the fragility of the distended colonic wall and the formation of a PEC tract by the pull method. Our use of the introducer PEG kit, which can attach the colonic wall to the peritoneal wall around the insertion hole of the PEC tube, resulted in resistance to tearing stress during the PEC procedure, traction of the tube, and peristalsis.

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Competing interests: None

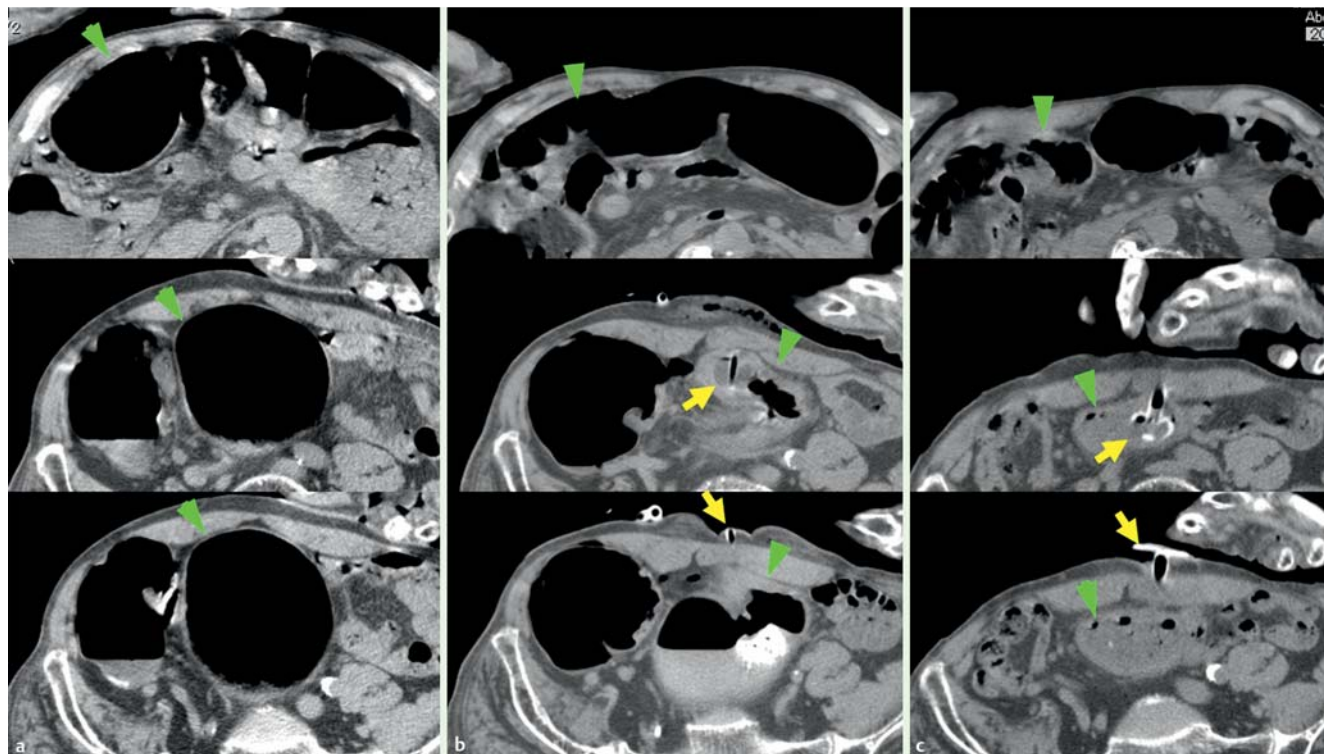


Fig. 1 Abdominal computed tomography in a 92-year-old man undergoing percutaneous endoscopic colostomy (PEC) to manage slow-transit constipation. **a** Before PEC, the scans show a distended colon with air and stool but without obstruction in front of the stomach. In particular, the sigmoid colon (arrowhead) is elongated and extends to the upper abdomen. **b** Immediately after PEC placement, the images show collapse of the sigmoid colon (arrowhead) proximal to the PEC tube (arrow) without unnatural stretching and bending and without the migration of visceral organs. **c** After replacement of the PEC tube with the button (arrow), the scans show collapse of the sigmoid colon and rectum (arrowhead).

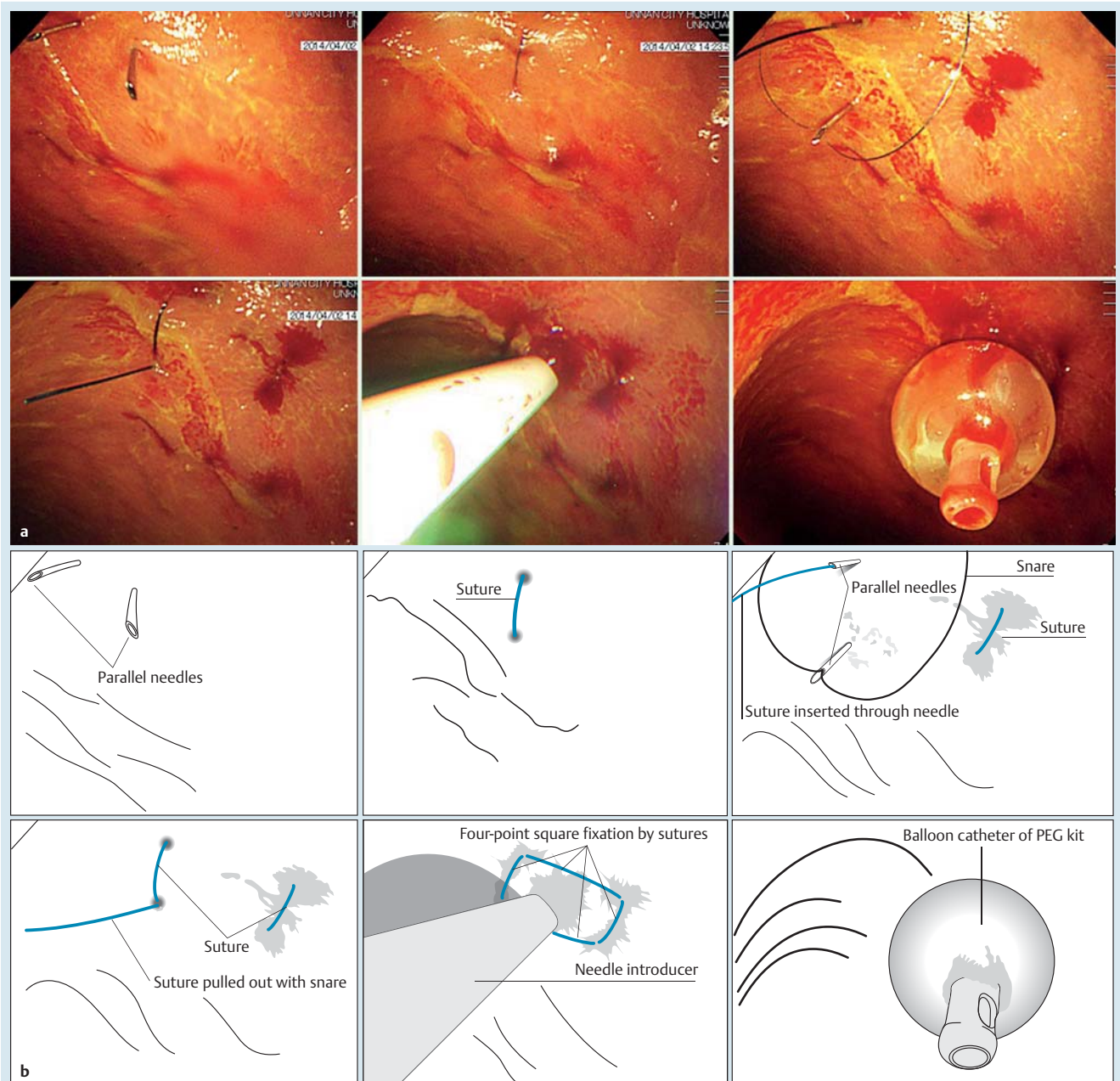


Fig. 2 **a** Colonoscopic images obtained during the percutaneous endoscopic colostomy (PEC) process. **b** Corresponding simple fine-line drawings. Upper left, middle, and right and lower left: Full distension of the working space in the sigmoid colon to prevent the migration of visceral organs between the colon and peritoneal wall is followed by four-point square fixation of the colon to the peritoneal wall by four sutures made with the Funada-style gastric wall fixation kit under colonoscopic transillumination. Lower middle: Puncture of the needle introducer of the percutaneous endoscopic gastrostomy (PEG) tube in the center of the fixation. Lower right: Insertion of the balloon catheter through the sheath of the needle.

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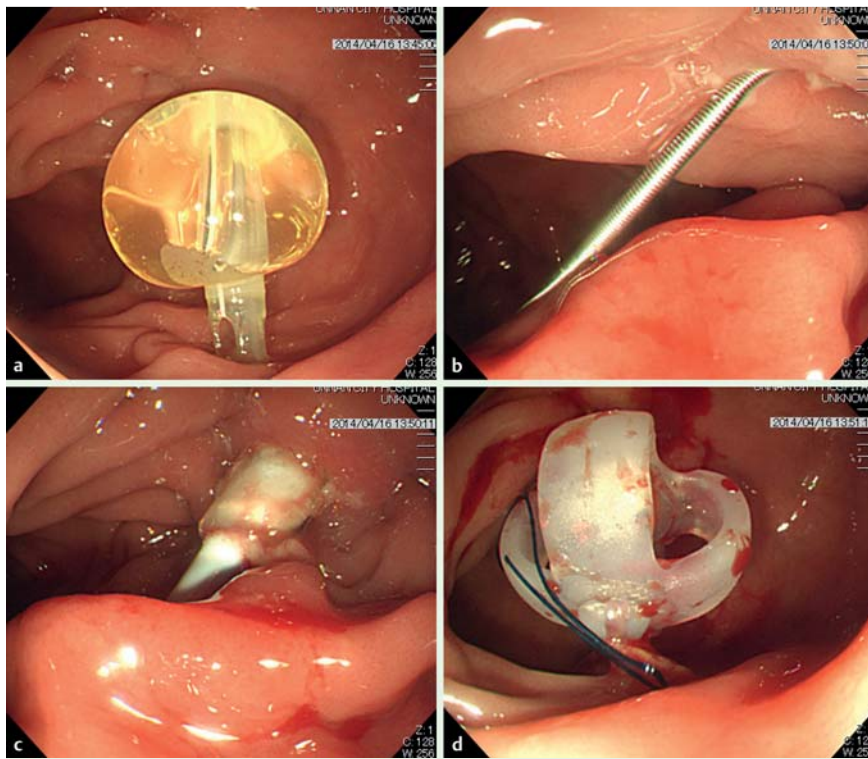


Fig. 3 Colonoscopic images obtained during replacement of the percutaneous endoscopic colostomy tube with the button. **a** Balloon catheter inserted during previous procedure. **b** Insertion of guidewire through the tract after removal of the balloon catheter. **c, d** Insertion of button-type gastrostomy tube and the suture for four-point square fixation, which had been used in the previous procedure, became loose, and fell off during replacement of the tube.

Bibliography

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