

Title:

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Breaking boundaries: laparoscopic and endoscopic collaboration in appendectomy

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Dear Editor,

A 65-year-old male presented to our institution due to the incidental discovery of a 2.5 x 2.5 cm adenoma in the ileocecal region, which involved the appendiceal orifice. Histopathologic analysis revealed a low-grade glandular epithelial neoplasia with focal areas of moderate dysplasia. Given the involvement of the appendiceal root and the malignant potential, we planned to perform an endoscopic and laparoscopic cooperative surgery.

The endoscopist inserted a GIF-Q260J endoscope (Olympus) with a transparent cap and observed an adenomatous polyp in the ileocecal region (Fig. 1A). After

submucosal injection of sodium hyaluronate mixed with adrenaline near the appendix fossa, a hook knife (Olympus) was used to create an initial mucosal incision, followed by circumferential full-thickness dissection to separate the appendiceal root in a layer-by-layer manner (Fig. 1B). The endoscope smoothly entered the abdominal cavity and clamped mesoappendix vessels. However, it was difficult to manipulate the appendix, with an inverted view revealing significant adhesions of the appendix mesentery (Fig. 1C and D). Timely laparoscopic intervention was performed to achieve local detachment of the appendix. The lesion and appendix specimen were removed through the intestinal tract. The wound was closed by purse string suture technique (Fig. 1E and F). A colonic drainage tube was inserted and the seromuscular layer was repaired under laparoscopy, and an intra-abdominal drain was left in place.

Discussion

This is the first report of endoscopic and laparoscopic cooperative treatment for an appendiceal root lesion. While endoscopic transcecal appendectomy had been a viable option (1,2), the unique nature of this case suggested laparoscopic assistance. Abdominal and colonic drainage tube placement helped to prevent potential fistulae and perforations. The use of endoscopic resection and purse-string closure technique avoided the drawbacks of traditional surgery, which required complete resection of the right colon in cases involving appendiceal base lesions. This approach preserves the appendix while also preventing the formation of digestive tract fistulas.

References

1. Guo L, Ye L, Feng Y, et al. Endoscopic transcecal appendectomy: a new endotherapy for appendiceal orifice lesions. *Endoscopy* 2022;54:585-90. DOI: 10.1055/a-1675-2625
2. Liu BR, Song JT, Liu ZH, et al. Endoscopic transcecal appendectomy: the first human case report. *Gastrointest Endosc* 2018;87:311-2. DOI: 10.1016/j.gie.2017.07.015

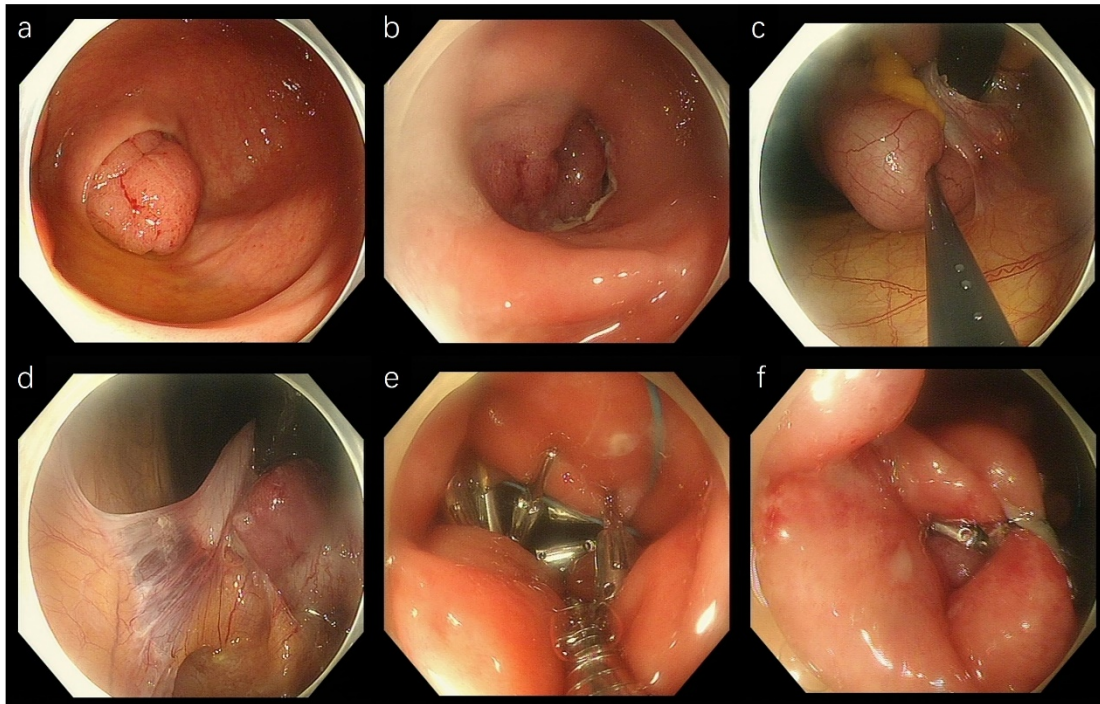


Fig. 1. Laparoscopic and endoscopic cooperative surgery to treat large adenomatous lesions involving the appendiceal orifice. A and B. A 2.5 x 2.5 cm adenoma in the appendiceal orifice. C and D. Severe adhesion of the appendix to the abdominal cavity. E and F. After appendectomy, the surgical incision was closed with purse string suture under colonoscopy.