Endoscopic transcecal appendectomy for recurrent appendicitis after previous endoscopic mucosal resection

A 47-year-old man suffered from acute appendicitis 4 years ago, relieved by a 3-day course of oral levofloxacin. A follow-up colonoscopy 1 year later revealed a 1.5-cm submucosal bulge near the appendiceal orifice. The patient underwent endoscopic mucosal resection (EMR) for the lesion at that hospital (Fig. 1) and was referred to our hospital for routine follow-up owing to the possibility of recurrence. Colonoscopy again found a submucosal bulge near the appendiceal orifice with purulent exudates (Fig. 2).

Since the lesion was recurrent and simple drainage did not solve the problem, endoscopic transcecal appendectomy was suggested. A full-thickness resection was performed using an ITknife2 and a HookKnife, with submucosal injection and circumferential submucosal incision (Video 1). The extent of resection was determined around the bulging appendiceal orifice. Subsequently, the endoscope was advanced into the peritoneal cavity, where the appendix was separated from the mesoappendix (Fig. 3). The detached pelvic mesoappendix showed no active bleeding. After complete resection, the appendix was extracted into the colon and retrieved through the anus using a snare. The cecal wall defect was closed using the purse-string suture technique with seven endoclips and a nylon loop (Fig. 4). The total duration time was 50 minutes.

Pathologic diagnosis confirmed chronic appendicitis (Fig. 5). The patient was discharged on postoperative day 5 without any complications. Natural orifice transluminal endoscopic surgery (NOTES) is emerging as a promising technique in the field of endoscopy. In this case, we have demonstrated that an endoscopic transcecal appendectomy in patients with previous EMR could be achieved successfully and safely. In the future, NOTES may be a promising option for chronic and recurrent appendici-
tis, challenging traditional or laparoscopic surgery as the first-line therapies for appendicitis. Therefore, further clinical studies and long-term follow-ups are necessary to validate the feasibility and effectiveness of NOTES in the treatment of appendiceal diseases.

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Competing interests

The authors declare that they have no conflict of interest.

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