



Prophylactic appendiceal retrograde intraluminal stent placement (PARIS)

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EMR or endoscopic submucosal dissection (ESD) are highly effective methods for resecting colonic polyps¹⁻⁴ but are ineffective when removing polyps arising from the appendiceal orifice. Endoscopic full-thickness resection (EFTR) using the full-thickness resection device

(FTRD; Ovesco, Tuebingen, Germany) is a favorable approach for the management of such lesions because it overcomes the potential risk of perforation or incomplete resection by deployment of an over-the-scope clip (OTSC) beneath the polyp before resection. However, appendicitis

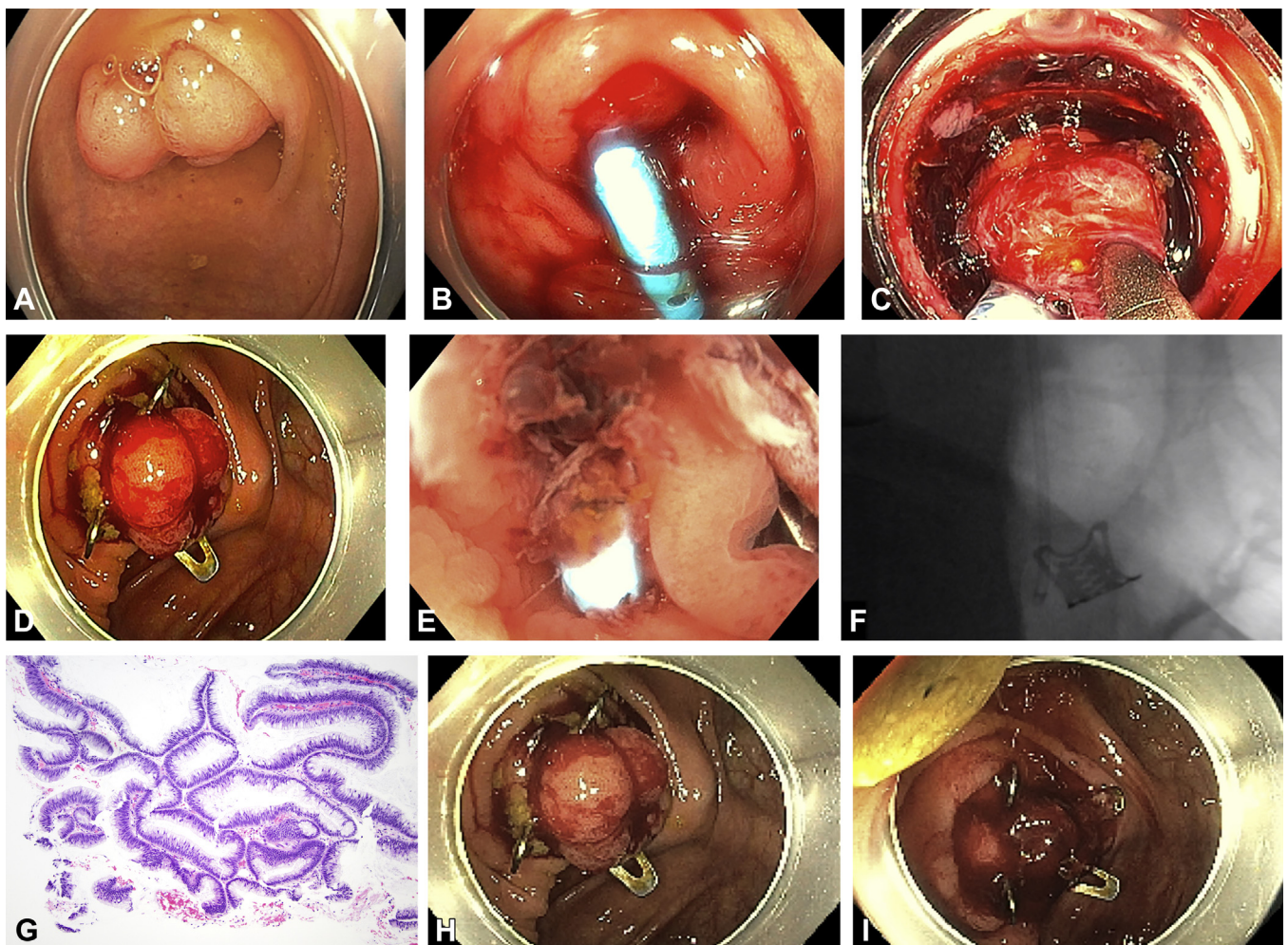


Figure 1. Prophylactic appendiceal retrograde intraluminal stent placement. **A**, Subpedunculated polyp extending into appendiceal lumen. **B**, A 7F, 5-cm straight biliary stent exiting the appendix orifice. **C**, Polyp being withdrawn into the cap of the full-thickness resection device. **D**, After deployment of the over-the-scope clip (OTSC) and snare polypectomy. **E**, Endoscopic view of the stent adjacent to the OTSC after resection. **F**, Fluoroscopic view of the stent adjacent to the OTSC after resection. **G**, Pathology results showing fragments of tubular adenoma. **H**, Cecum view at colonoscopy 3 weeks after prophylactic appendiceal retrograde intraluminal stent placement. The appendiceal stent had migrated, but the OTSC remained in situ. **I**, Residual tissue above the OTSC, concerning for residual polyp, underwent biopsy and showed no remaining adenomatous tissue.

is a known adverse event seen in 0% to 50% of cases, with patients often requiring emergent appendectomy.⁵⁻¹⁴ Endoscopic retrograde appendiceal therapy is a minimally invasive technique for the treatment of uncomplicated acute appendicitis through internal drainage. Small studies have shown that it is associated with high rates of clinical efficacy (96%-100%).¹⁵⁻¹⁷

PROPHYLACTIC APPENDICEAL RETROGRADE INTRALUMINAL STENT PLACEMENT

In our institution, a 52-year-old man was referred for management of a 1.5-cm semi-pedunculated (Paris Isp) polyp that was found during a routine screening colonoscopy (Fig. 1A; Video 1, available online at www.giejournal.org). A biopsy specimen of the polyp revealed tubular adenoma. Because of the position of the polyp, which extended into the appendiceal lumen, the decision was made to pursue EFTR rather than EMR. Recognizing the risk of postprocedural appendicitis, we elected to combine EFTR with prophylactic appendiceal retrograde intraluminal stent placement.

The procedure was performed with a pediatric colonoscope with a cap. After advancing the colonoscope to the cecum, the endoscope was positioned close to the appendix for stability during cannulation. The polyp could be seen on the edge of the valve of Gerlach and prolapsing into the appendiceal lumen (Fig. 1A). An ERCP sphincterotomy preloaded with a 0.025-inch guidewire was introduced into the appendiceal orifice. The guidewire was advanced into the appendiceal lumen under fluoroscopic guidance. Contrast was injected and defined the appendix fluoroscopically.

A 7F, 5-cm straight plastic biliary stent was then inserted over the guidewire, with the distal flange left at the appendiceal orifice (Fig. 1B). We then removed the colonoscope and loaded the FTRD. The colonoscope was once again advanced to the cecum. The polyp was then grasped with the forceps (Fig. 1C) and retracted into the cap of the colonoscope, and the OTSC was successfully deployed beneath the polyp (Fig. 1D). The polyp was then resected with a snare, retrieved, and sent to pathology. At the end of the procedure, the plastic stent remained in situ within the appendix lumen, adjacent to the OTSC (Fig. 1E and F).

The patient was admitted overnight and was discharged home the next day. Pathology results showed fragments of tubular adenoma (Fig. 1G). The patient developed no signs of appendicitis and returned for a colonoscopy and appendiceal stent removal 3 weeks later. The OTSC remained in situ, but the stent had already spontaneously migrated. Because of concerns about incomplete resection of the polyp, the polyp site was carefully inspected and a biopsy was performed (Fig. 1H and I).

This confirmed no residual adenomatous tissue (Video 1, available online at www.giejournal.org).

Appendicitis after EFTR is probably due to the OTSC restricting outflow from the appendix.^{5-14,18} The peak onset of appendicitis is within 1 to 2 weeks of the FTRD procedure, and prescribing periprocedural antibiotics does not affect the rate of appendicitis or need for appendectomy after FTRD.⁵⁻¹⁴ Temporary stent placement in the appendiceal lumen, as outlined in this case, has the potential to maintain drainage of the appendix during the periprocedural period and avoid the risk of appendicitis associated with EFTR. The promising findings outlined in this case will need to be validated in prospective studies, but the technique is likely to be useful in high-risk surgical candidates and those with hostile abdomens.

DISCLOSURE

Dr Khasbab is a consultant for Boston Scientific, Olympus America, Medtronic, GI Supply, and Triton. Dr Kumbhari is a consultant for Medtronic, Pentax Medical, Boston Scientific, FujiFilm, and Apollo Endosurgery. All other authors disclosed no financial relationships.

Abbreviations: EFTR, endoscopic full-thickness resection; ESD, endoscopic submucosal dissection; FTRD, full-thickness resection device; OTSC, over-the-scope clip.

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