



Use of a cholangioscope for appendixoscopy and detecting a residual appendiceal adenoma

Michael Bejjani, MD,¹ Apurva Shrigiriwar, MD,¹ Bachir Ghandour, MD,¹ Bashar Safar, MD,² Mounen A. Khashab, MD³

Full endoscopic resection of appendiceal polyps is difficult because of the inability to reach deep margins found in the distal lumen. This may lead to a high rate of residual and recurrent polyps inside the appendiceal lumen, which are difficult to clearly visualize.^{1,2} In our case, we demonstrate the use of a cholangioscope for appendixoscopy to examine the appendiceal lumen for residual and recurrent polyps.

CASE PRESENTATION

A 54-year-old man was found to have a 15-mm polyp (Paris classification 1sp) within the appendiceal orifice (Fig. 1A). A cold forceps polypectomy was done, and the polyp was found to be a tubular adenoma (Fig. 1B). After 3 weeks, the patient had a follow-up colonoscopy because of concerns of an incomplete resection. A biopsy specimen was taken from the polyp site and confirmed no residual polyp. At the 1-year follow-up colonoscopy, a 15-mm residual polyp was visualized at the appendiceal orifice. The residual polyp was removed using EMR and was found to be a tubulovillous adenoma. After 3 months, another follow-up colonoscopy was done, and no residual polyp was visualized at the prior site of resection. Because of the known history of appendiceal polyps, the decision was made to evaluate the appendiceal lumen using appendixoscopy (Video 1, available online at www.videogie.org). There was evidence of a 10-mm semi-pedunculated polyp (Paris classification 1sp) in the distal appendix (Fig. 1C).

VIDEO DESCRIPTION

The procedure was performed with a pediatric colonoscope using a cap. The scope was advanced inside the cecum

and a normal-appearing ileocecal valve was seen. The appendiceal orifice was identified and there was no evidence of a residual polyp seen at the orifice or at the scar of the prior EMR. The decision was made to further investigate the appendix with an appendixoscope because of history of difficult-to-resect polyp. The single-operator cholangioscope was inserted through the pediatric colonoscope, and the appendix was successfully cannulated using the free-hand approach. The appendix was lavaged with water and closely examined under the endoscopic visualization. Evidence of an approximately 10-mm semi-pedunculated polyp was seen in the distal appendix. During appendixoscopy, there was evidence of a skip area where normal mucosa without adenomatous tissue was seen between the appendiceal orifice and the polyp. Attempts were then made to biopsy the polyp using microforceps, which were unsuccessful because of the distal location of the polyp and unstable position of the appendixoscope. The scope was then completely withdrawn, and the procedure was completed.

OUTCOMES

The patient was referred to surgery for appendectomy as there was no evidence of residual adenoma in the colon. Since the luminal side of the polyp was successfully resected endoscopically, an appendectomy was curative without the need for colonic or cecal resection (Fig. 1D and E). Pathological examination of the resected appendectomy specimen with attached cecum revealed a 1.2 × 0.8 × 0.5-cm tan-pink pedunculated tubulovillous polyp without any high-grade dysplasia.

DISCUSSION

Single-operator cholangioscopy has been used to visualize and evaluate the biliary and pancreatic ducts. It has emerged as having an important role in biliary cannulation, tissue biopsy, tumor staging, and stone fragmentation in the biliary and pancreatic ducts. Its use in an appendixoscopy to evaluate the appendiceal lumen is rarely done but has been recently reported in the literature a few times.^{3,4} They have described a similar approach by using a single-operator cholangioscope for appendixoscopy and evaluation of an appendiceal mass seen on imaging.

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Division of Gastroenterology and Hepatology, Johns Hopkins Medicine, Baltimore, Maryland (1), Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland (2), Division of Gastroenterology and Hepatology, Johns Hopkins Medicine, Baltimore, Maryland (3).

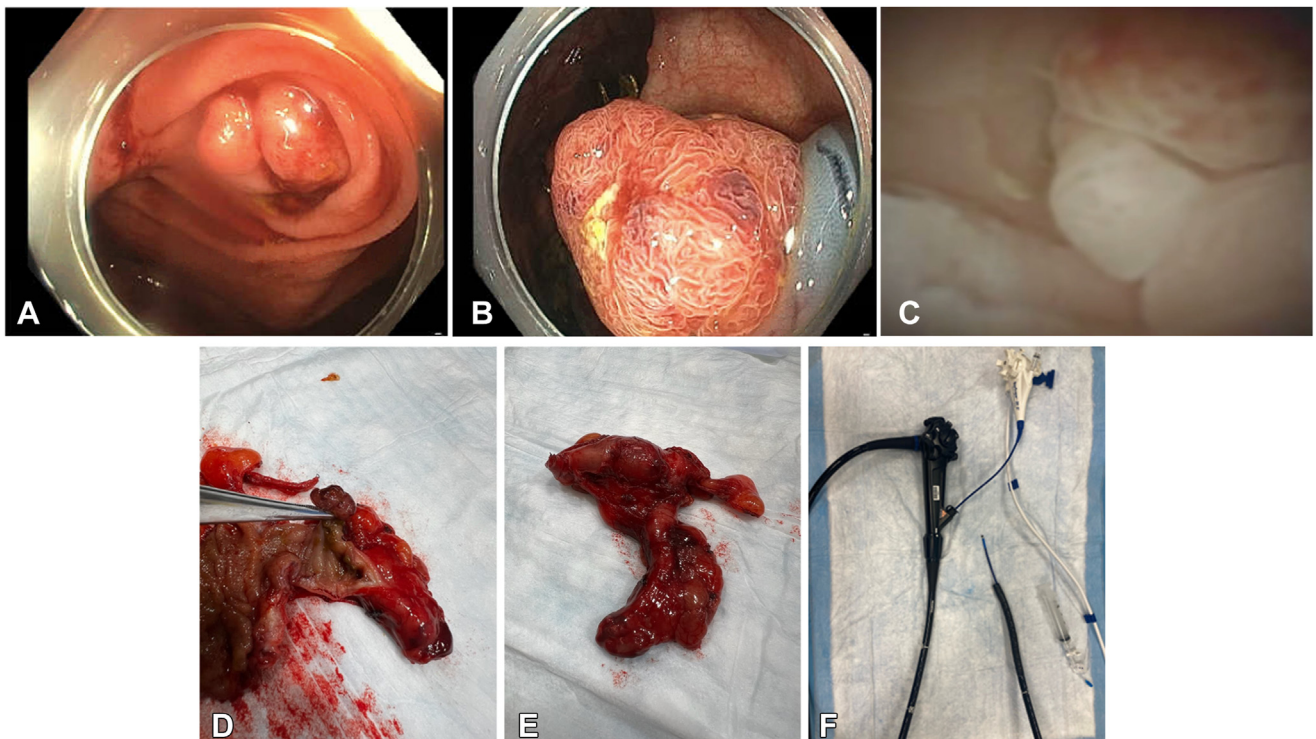


Figure 1. **A**, Polyp within the appendiceal orifice. **B**, Biopsy attempt of the polyp. **C**, Semi-pedunculated polyp seen in the distal appendix through the cholangioscope. **D and E**, Appendectomy showing pedunculated polyp. **F**, Single-operator cholangioscope (*white*) connected to colonoscope (*black*).

Biopsies were safely performed using microbiopsy forceps during the appendixoscopy. As for other therapeutic methods for resection of polyps extending into the appendiceal lumen, some recent techniques have emerged with excellent clinical and technical success. Endoscopic full-thickness resection using the full-thickness resection device was shown to have technical success of 89% and clinical success of 80% in a recent multicenter international retrospective study.⁵

CONCLUSIONS

Our case demonstrates the usage of a cholangioscope for appendixoscopy to clearly visualize the appendiceal lumen for any polyps or lesions. This technique should be increasingly considered especially in patients with a history of appendiceal polyps because it provides a safe and accurate way to examine the distal lumen for any residual or recurrent lesions.

DISCLOSURE

Dr Khashab is a consultant for Boston Scientific, Olympus America, Medtronic, and GI Supply and receives royalties from UpToDate and Elsevier. The other authors did not disclose any financial relationships.

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