



# An organ-sparing approach: endoscopic submucosal hydrodissection followed by appendectomy to remove giant synchronous adenomas in a patient with prior left hemicolectomy

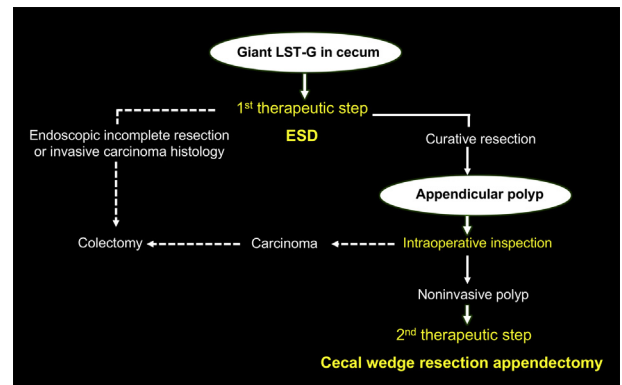
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Colorectal polyps are considered to be endoscopically unresectable for 2 main reasons: either removal is judged to be technically impossible or there is a suspicion of deep tumor infiltration.<sup>1</sup> A surgical approach with colectomy is usually indicated to remove polyps with malignant change, but where there is no definitive evidence of cancer, a colectomy may seem overly aggressive.<sup>2</sup>

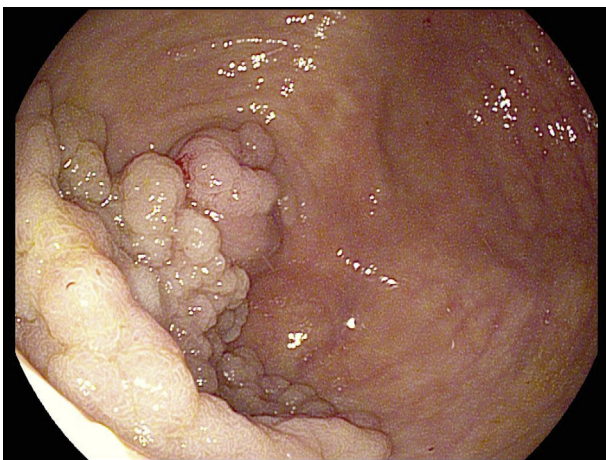
The definition of “endoscopically unresectable” is widely variable among endoscopists because it is related not only to polyp location and morphology but also to endoscopist expertise. As such, upon referral to a tertiary center for consideration of surgical resection, a “second look” procedure for assessment by a reference therapeutic endoscopist may be justified and may avoid unnecessary surgery.<sup>3</sup>

Polyps measuring more than 2 cm, located within cecum and involving the appendiceal orifice, are generally considered complex polyps and are expected to be difficult to completely remove.<sup>1</sup> In colon polyps, en bloc resection by colorectal endoscopic submucosal dissection offers precise histologic evaluation and a low rate of

recurrence.<sup>4</sup> The water-jet hydrodissection technique has been shown to be effective for colorectal tumors, including in the cecum.<sup>5,6</sup> Although polyps involving the appendiceal orifice can be removed endoscopically,<sup>7</sup> currently the standard treatment in most hospitals is surgical appendectomy.<sup>8</sup>



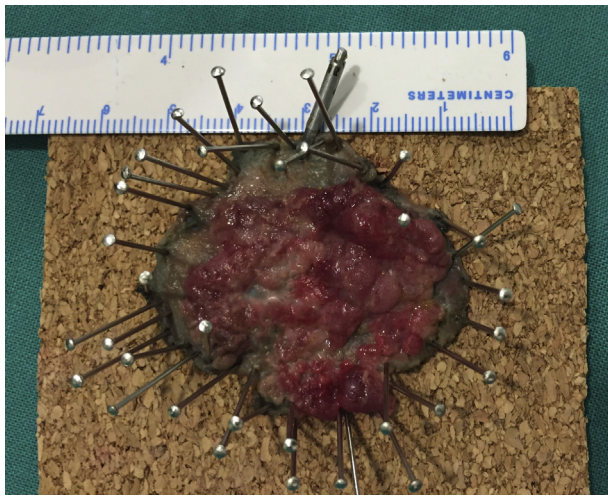
**Figure 2.** The therapeutic decision of the multidisciplinary team meeting was to use an organ-sparing approach with sequential treatment.



**Figure 1.** The colonoscopy shows an appendicular polyp and a giant laterally spreading tumor, granular type, in the cecum area near the appendiceal orifice.



**Figure 3.** Clip-flap method.



**Figure 4.** Specimen resected by endoscopic submucosal hydrodissection.



**Figure 5.** The endoscopic submucosal dissection scar after 3 months.

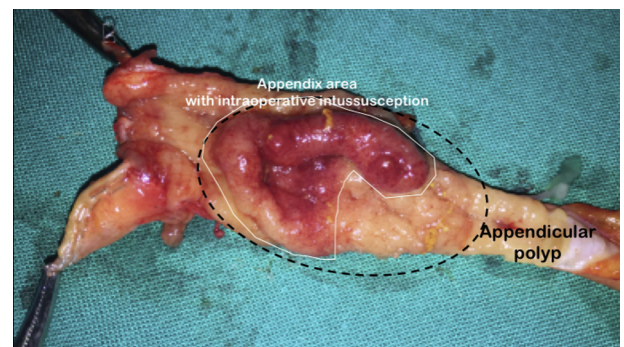
**Video 1** (available online at [www.VideoGIE.org](http://www.VideoGIE.org)) shows how an organ-sparing approach can change a previous therapeutic decision in a patient with an “endoscopically unresectable” cecal polyp. The patient was an obese 69-year-old man with previous left hemicolectomy for sigmoid adenocarcinoma who was referred to our hospital for colectomy.

The previous colonoscopy report showed a giant cecal polyp that involved the appendiceal orifice. The endoscopist considered the lesion to be “endoscopically unresectable,” took biopsy specimens that revealed adenoma with high-grade dysplasia, and referred the patient for a second colon surgery.

A “second look” colonoscopy was performed and showed 2 different synchronous lesions (**Fig. 1**): an appendicular polyp and a giant laterally spreading tumor, granular type, in the cecum area near the appendiceal



**Figure 6.** Appendiceal intussusception with the polyp within the cecum.



**Figure 7.** Appendectomy specimen.

orifice. Assessing the patient’s surgical history, our multidisciplinary team meeting made the decision to use an organ-sparing approach with sequential treatment to avoid a completion colectomy (**Fig. 2**).

The cecal polyp was resected with endoscopic submucosal dissection using the ERBEJET 2 hydrodissection system and a T-type hybrid knife (ERBE, Tübingen, Germany). The endoscopic submucosal dissection was technically challenging owing to poor visualization of the operative field. To facilitate formation of the mucosal flap, we adopted the clip-flap method (**Fig. 3**).<sup>9</sup> The resection was completed within 153 minutes without adverse events. The resected specimen size was 50 × 40 mm (**Fig. 4**). Histopathologic examination identified a tubular adenoma with low-grade dysplasia with R0 margin.

At 3 months, there was no evidence of neoplastic change within the scar site (**Fig. 5**) and it was decided that the simplest resolutive and pragmatic treatment for the appendicular polyp was an appendectomy. During surgery, an indurated mass was observed in the appendix, raising the possibility of malignant tumor. With the previous



information from the colonoscopy, the mass was deduced to be an appendiceal intussusception with the polyp within the cecum (Fig. 6). After the inverted appendix was reduced, cecal wedge resection appendectomy was performed, preserving the ileocecal valve. The surgical specimen was opened to assess the characteristics of the polyp and rule out invasive carcinoma. The appendicular mucosal surface featured an elevated lesion that measured 3.5 cm in greatest dimension (Fig. 7). The histologic result was adenoma with low-grade dysplasia without involvement at the margins.

Our case is particularly interesting because it demonstrated that a sequential treatment can avoid an unnecessary colectomy, which has a great impact on the patient. Teamwork of therapeutic endoscopists and surgeons can be very beneficial for patients with noninvasive polyps who are candidates for surgery.

## DISCLOSURE

*All authors disclosed no financial relationships.*

## ACKNOWLEDGMENTS

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## REFERENCES

1. Angarita FA, Feinberg AE, Feinberg SM, et al. Management of complex polyps of the colon and rectum. *Int J Colorectal Dis* 2018;33:115-29.
2. Bertelson NL, Kalkbrenner KA, Merchea A, et al. Colectomy for endoscopically unresectable polyps: how often is it cancer? *Dis Colon Rectum* 2012;55:1111-6.
3. Tash EL, Cameron EA. Ensuring access to expert polypectomy and avoiding unnecessary surgery. *Gastrointest Endosc* 2014;80:677-8.
4. Yamada M, Saito Y, Takamaru H, et al. Long-term clinical outcomes of endoscopic submucosal dissection for colorectal neoplasms in 423 cases: a retrospective study. *Endoscopy* 2017;49:233-42.
5. Ramos-Zabala F, Parra-Blanco A, Beg S, et al. Feasibility and learning curve of unsupervised colorectal endoscopic submucosal hydrodissection at a Western Center. *Eur J Gastroenterol Hepatol* 2020;32:804-12.
6. Ramos-Zabala F, Beg S, García-Mayor M, et al. Novel approach to endoscopic submucosal dissection of a cecal lesion with non-lifting sign by submucosal fatty tissue using selective-regulation high-pressure water-jet method and immersion in saline solution. *VideoGIE* 2020;5:116-9.
7. Liu BR, Ullah S, Ye L, et al. Endoscopic transcecal appendectomy: a novel option for the treatment of appendiceal polyps. *VideoGIE* 2019;4:271-3.
8. Floyd TL, Orkin BA, Kowal-Vern A. Cecal wedge resection appendectomy for the management of appendiceal polyps. *Tech Coloproctol* 2016;20:781-4.
9. Yamamoto K, Hayashi S, Nakabori T, et al. Endoscopic submucosal dissection using endoclips to assist in mucosal flap formation (novel technique: "clip flap method"). *Endoscopy* 2012;44:334-5.

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