



Endoscopic unroofing and mucosal resection for a large colonic lipoma with intussusception: an effective hybrid technique

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Lipomas account for 4% of benign subepithelial tumors of the GI tract and are found mainly in the colon (65%-75%).¹ Colonic lipomas are often found incidentally during colonoscopy and are often asymptomatic and <20 mm in size and therefore do not require routine colonoscopy or treatment.² However, in rare cases, colonic lipoma may grow to the point of being symptomatic.

If the size of a colonic lipoma is >40 mm, 75% of patients may develop symptoms such as abdominal pain, constipation, bleeding, and intussusception.³ There are several endoscopic treatment options for these large



Figure 1. CT scan revealed a tumor measuring 52 × 30 mm at the sigmoid colon, with findings of large-bowel intussusception.

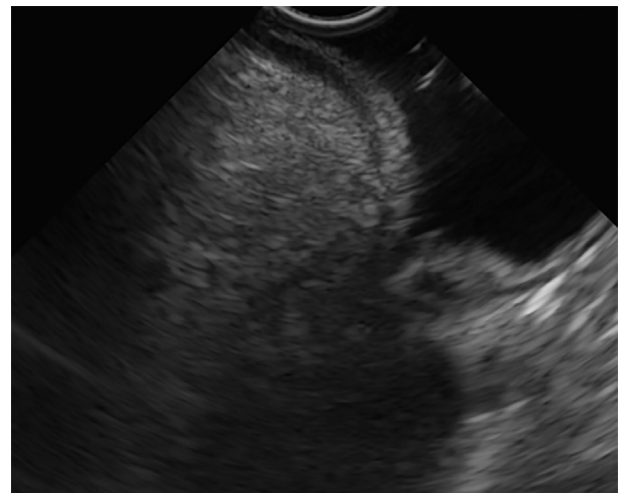


Figure 3. EUS using a 12 MHz catheter probe revealed a round, hyperechoic, and homogenous tumor arising from the fourth layer.

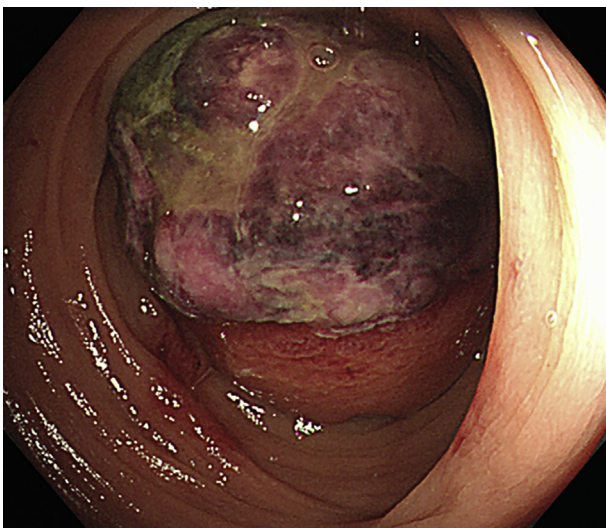


Figure 2. Colonoscopy revealed a yellowish subepithelial tumor coated with a necrotic white substance.

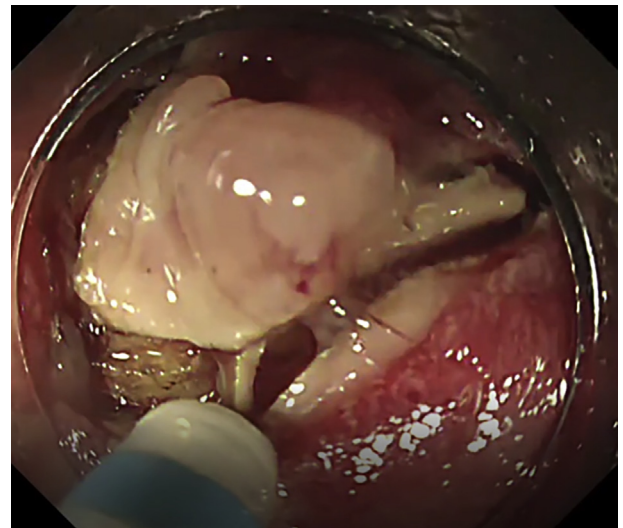


Figure 4. The surface of the lipoma was incised and unroofed using a DualKnife (Olympus, Tokyo, Japan).

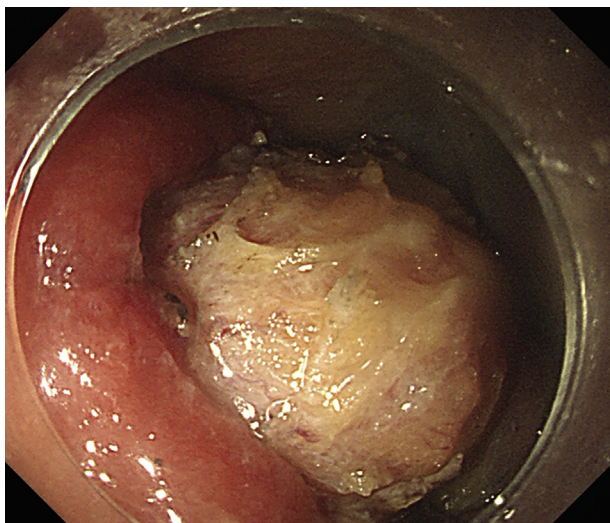


Figure 5. The upper third of the lipoma was removed using an electrocautery snare.

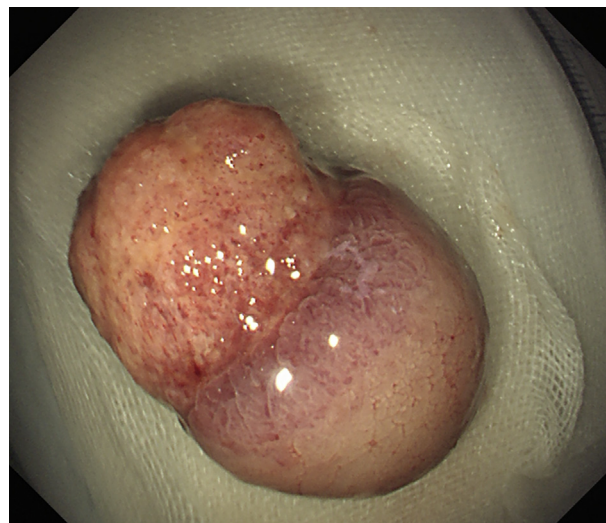


Figure 7. The residual lipoma was resected by EMR.

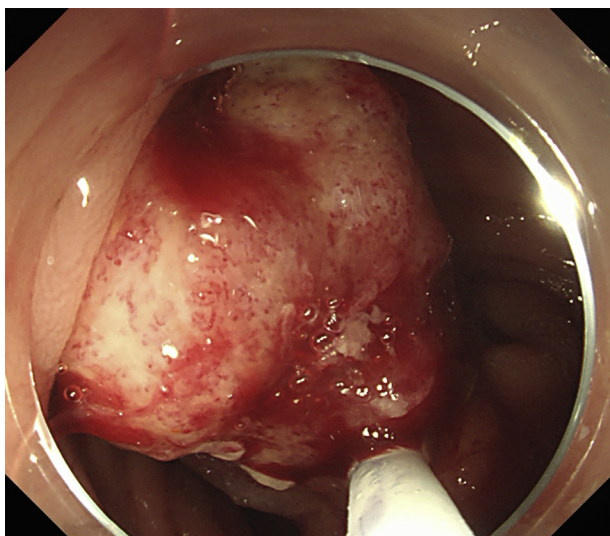


Figure 6. An additional EMR for the residual lipoma.

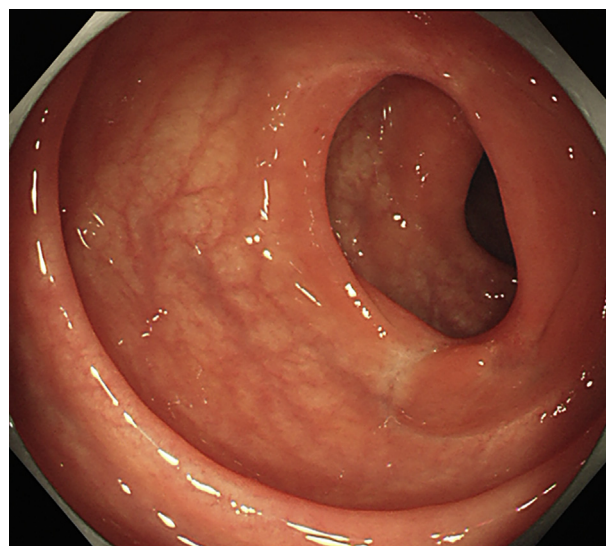


Figure 8. A follow-up colonoscopy performed 1 month later showed only scars without any residual lipoma.

lipomas, each with its own pros and cons. Some recommend an endoscopic polypectomy, but the risk of perforation is high. Moreover, if the lipoma is too large, the field of view and maneuverability may be compromised, and it may not be possible to apply a snare. Others recommend endoscopic unroofing, a procedure reported in 1997 that involves the removal of the upper third of a large lipoma.⁴ This is reportedly a useful and safe method for the treatment of lipomas.^{5,6}

In a systematic review, perforation with unroofing was found in 0% of patients, whereas perforation was found in 9.7% and 3.5% of patients with EMR and loop-assisted techniques, respectively.⁷ However, unroofing alone can leave tumor remnants behind, and the results in large

lipomas may not be as good as expected.⁸ Here, we present the 2-step treatment of a large lipoma by endoscopic unroofing and additional mucosal resection (EMR) as a safe and effective treatment option even for lipomas large enough to cause intussusception (Video 1, available online at www.VideoGIE.org).

A 74-year-old woman with a history of ovarian cysts and hypertrophic cardiomyopathy presented with intermittent abdominal pain and hematochezia. She was on atenolol but otherwise had no other significant medical history. All of the hematologic parameters were within normal limits, including tumor markers. A CT scan revealed a tumor measuring 52 × 30 mm at the sigmoid colon, with findings of large-bowel intussusception (Fig. 1).

Colonoscopy performed for repositioning revealed a yellowish subepithelial tumor coated with a necrotic white substance (Fig. 2). The lesion was soft and deformable. EUS using a 12 MHz catheter probe revealed a round, hyperechoic, and homogenous tumor arising from the fourth layer (Fig. 3). An excisional biopsy was performed, and a diagnosis of lipoma was made. After successful endoscopic repositioning, she did not have repeated symptoms of intussusception. This study was approved by the St Luke's ethics committee (approval number: 20-R098, July 30, 2020), and written, informed consent was taken from the patient for the publication of this report.

An en bloc resection by EMR was initially considered, but the lipoma was too large to allow for a clear view; therefore, endoscopic unroofing was planned. With prior patient consent, the surface of the lipoma was incised and unroofed using a DualKnife (Olympus, Tokyo, Japan) (Fig. 4), and the upper third of the lipoma was removed using an electrocautery snare (Fig. 5). One month after unroofing, colonoscopy revealed that the lipoma had significantly reduced in size, but as expected, was still present. Because she still reported mild hematochezia, an additional EMR was performed (Fig. 6), and the residual lipoma was successfully resected (Fig. 7). A follow-up colonoscopy performed 1 month after the additional EMR showed only scars without any residual lipoma (Fig. 8). There were no adverse events after unroofing and EMR, and the patient remained free of abdominal symptoms thereafter.

In this case, we were able to show that 2-step treatment comprising endoscopic unroofing with EMR is a safe and effective treatment even for lipomas large enough to cause intussusception.

DISCLOSURE

All authors disclosed no financial relationships.

REFERENCES

1. Mayo CW, Pagtalunan RJ, Brown DJ. Lipoma of the alimentary tract. *Surgery* 1963;53:598-603.
2. Menon L, Buscaglia JM. Endoscopic approach to subepithelial lesions. *Therap Adv Gastroenterol* 2014;7:123-30.
3. Kitamura K, Kitagawa S, Mori M, et al. Endoscopic correction of intussusception and removal of a colonic lipoma. *Gastrointest Endosc* 1990;36:509-11.
4. Mimura T, Kuramoto S, Hashimoto M, et al. Unroofing for lymphangioma of the large intestine: a new approach to endoscopic treatment. *Gastrointest Endosc* 1997;46:259-63.
5. Kopacova M, Rejchrt S, Bures J. Unroofing technique as an option for the endoscopic treatment of giant gastrointestinal lipomas. *Acta Medica (Hradec Kralove)* 2015;58:115-8.
6. Fukuda S, Yamagata R, Mikami T, et al. Gastric lipoma successfully treated by endoscopic unroofing. *Dig Endosc* 2003;15:228-31.
7. Bronswijk M, Vandenbroucke AM, Bossuyt P. Endoscopic treatment of large symptomatic colon lipomas: a systematic review of efficacy and safety. *United European Gastroenterol J* 2020;8:1147-54.
8. Tomiki Y, Niwa K, Nagayasu K, et al. Two patients with large colonic lipomas for which endoscopic unroofing was ineffective. *Case Rep Gastroenterol* 2016;10:538-44.

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