



Endoscopic submucosal dissection of a symptomatic giant colonic lipoma: technical tips for resection and specimen retrieval

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Colonic lipomas are rare, benign subepithelial tumors of the colon. They are usually asymptomatic and found incidentally during colonoscopy.¹ Symptoms correlate with the size of the lipoma; as such, approximately 75% of patients with giant colonic lipomas (>4 cm) are symptomatic.^{2,3} Symptoms include abdominal pain, constipation, intussusception, or bowel obstruction. Endoscopic resection is preferred over surgery for symptomatic lipoma.³ Various endoscopic resection techniques have been described.⁴⁻⁶ Here, we present a case of a symptomatic giant colonic lipoma of the ascending colon that was challenging during both endoscopic submucosal dissection (ESD) and specimen retrieval (Video 1, available online at www.giejournal.org).

A 59-year-old man without comorbidities presented to our hospital with intermittent abdominal pain. Colonoscopy revealed a soft, yellowish submucosal tumor measuring 8 cm in diameter in the ascending colon with a positive “pillow sign” (Fig. 1). Abdominal CT after colonoscopy revealed colo-colonic intussusception of the cecum and ascending colon into the transverse colon, with a large fatty mass as the pathologic leading point (Fig. 2). CT and colonoscopic findings indicated that the most likely diagnosis was a giant lipoma.

An endoscopic resection was performed after discussion with the patient. The potential resection techniques were loop-assisted resection or ESD, depending on the intraoperative findings. During the procedure, the tumor could not be caught using an Endoloop (Olympus, Tokyo, Japan) because it was too large; therefore, ESD was performed. The patient’s position was altered from the left lateral decubitus to the supine position to allow gravity to aid traction (Fig. 3). The submucosal injection was performed with glycerol mixed with indigo carmine and adrenaline. We used a DualKnife (Olympus) to make the incision and dissect along the base of the tumor. In the core of the pseudopedicle of the lipoma, the invaginated muscularis propria with large feeding vessels was identified and cauterized with coagulating forceps

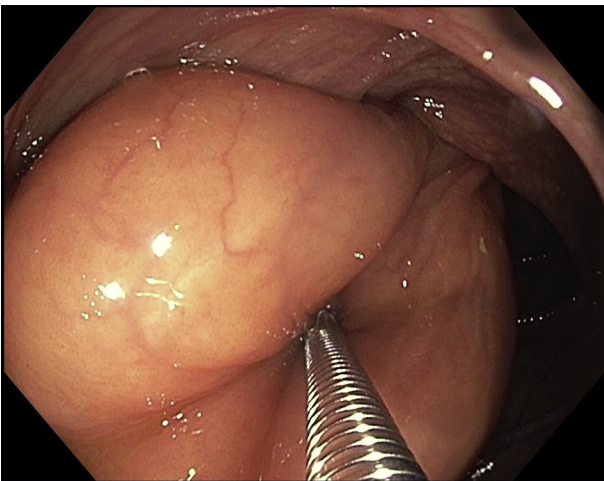


Figure 1. Colonoscopy revealed a soft, yellowish submucosal tumor of the ascending colon measuring 8 cm in diameter with a positive “pillow sign.”

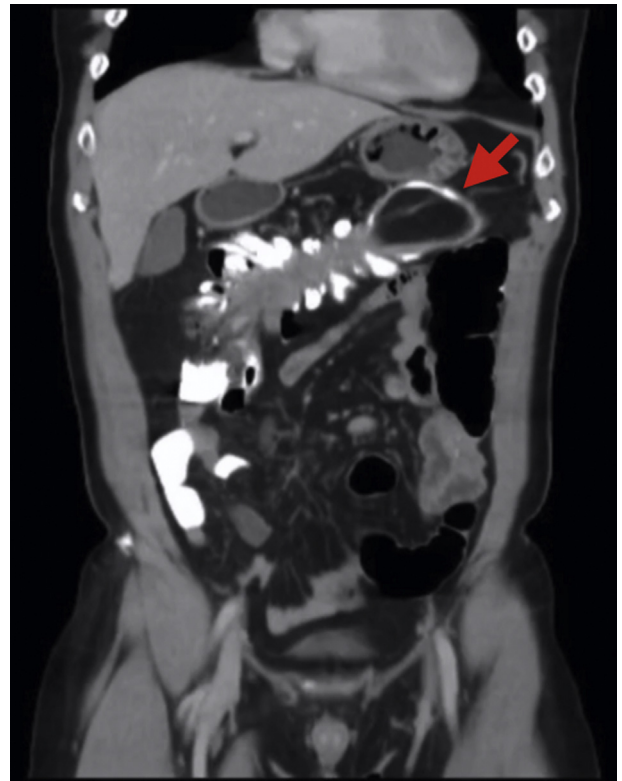


Figure 2. CT scan showing colo-colonic intussusception of the cecum and ascending colon into the transverse colon, with a large fatty mass as the pathologic leading point.

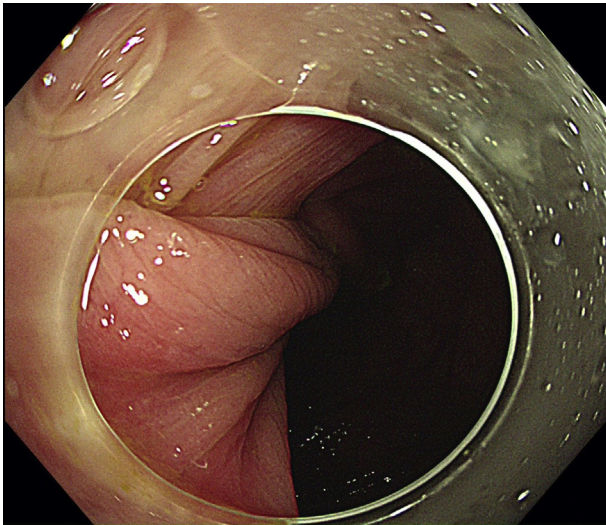


Figure 3. The pseudopedicle of a giant colonic lipoma. We altered the patient position, which allowed gravity to aid in traction.

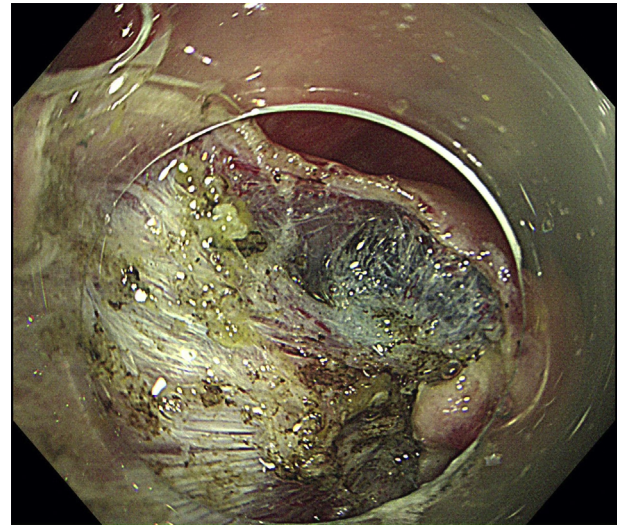


Figure 4. The vascularized muscular core in the pseudopedicle of a giant colonic lipoma. Careful dissection and cauterization of feeding vessels are needed to prevent bleeding.

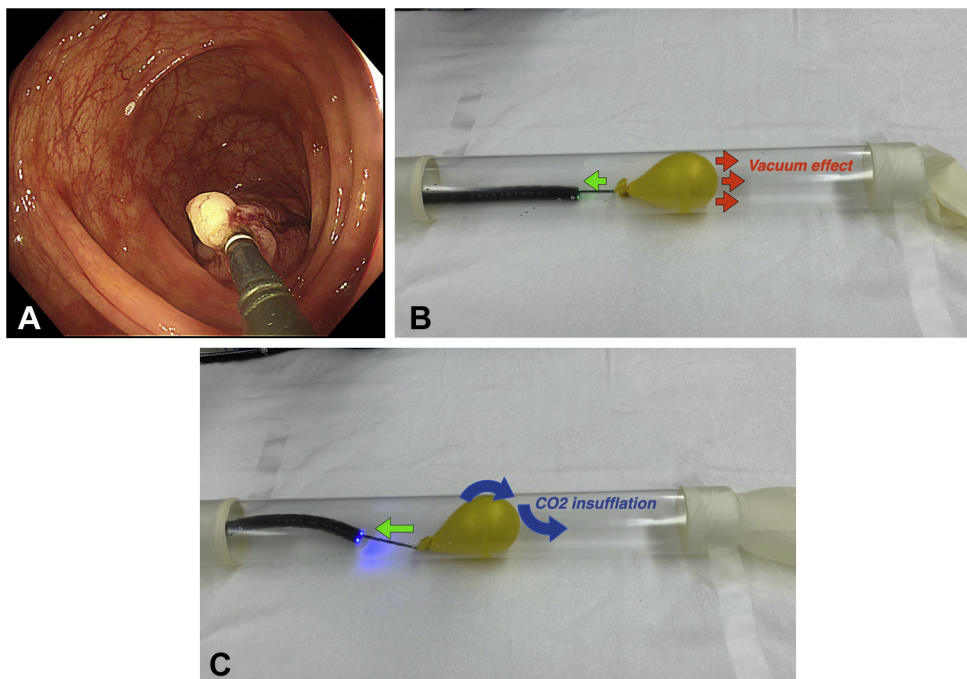


Figure 5. **A,** Difficult specimen retrieval because of the vacuum effect from the large specimen. **B,** Model demonstrating the vacuum seal that caused resistance to specimen retrieval. **C,** Moving the tip of the colonoscope with the right and left knob simultaneously with CO₂ insufflation to break the vacuum seal.

(Fig. 4). An insulated-tip knife nano (Olympus) was used during the latter part of the dissection after the muscular core was cut. The tumor was successfully removed, and the mucosal defect was closed using endoscopic clips.

Specimen retrieval was difficult owing to the vacuum effect of this large specimen (Fig. 5A and B). To overcome this difficulty, we swung the tip of the colonoscope with the right and left knob simultaneously with CO₂

insufflation (Fig. 5C). Finally, the vacuum seal was broken and the specimen was successfully retrieved. The lipoma measured 8 × 5 × 3.5 cm on ex vivo examination (Fig. 6). The procedural time was 100 minutes.

The patient was discharged 2 days postoperatively without adverse events, and pathologic examination confirmed the lipoma diagnosis. The patient's abdominal pain was resolved on follow-up. Surveillance colonoscopy



Figure 6. Resected specimen measuring 8 × 5 × 3.5 cm.

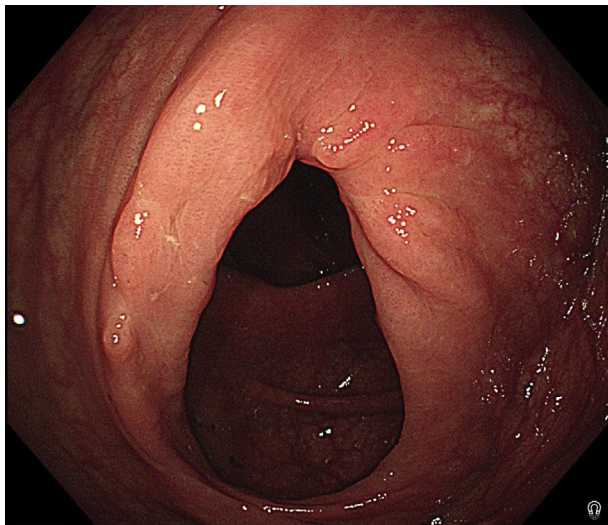


Figure 7. Surveillance colonoscopy 1 year after resection showed a clear scar without any sign of recurrence.

1 year after resection revealed a clear scar with no signs of recurrence (Fig. 7).

We present a challenging case of a giant colonic lipoma. Difficulties occurred during both ESD and specimen retrieval. Our technical tips are as follows. First, use proper patient positioning to allow gravity to make the giant

colonic lipoma hang from the colonic wall. Second, the muscularis propria layer of the colon can become invaginated into the stalk of giant pedunculated lipomas, forming a pseudopedicle.⁷ The core of this muscular pseudopedicle usually contains feeding vessels that should be cauterized with coagulating forceps before further dissection. Third, specimen retrieval of giant colonic lipomas may be difficult because of the vacuum effect. We swung the tip of the colonoscope with the right and left knob simultaneously with CO₂ insufflation to break the vacuum seal.

In conclusion, ESD is a safe and effective endoscopic treatment for giant colonic lipomas. Difficulty during the procedure and specimen retrieval can be overcome with these technical tips.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviation: ESD, endoscopic submucosal dissection.

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