

# Endoscopic Resection of a Giant Duodenal Lipoma

Karthik Gnanapandithan, MD, MS<sup>1</sup>, Harry R. Aslanian, MD<sup>2</sup>, Priya A. Jamidar, MD, FACG, FASGE<sup>2</sup>, and Thiruvengadam Muniraj, MD, PhD<sup>2</sup>

<sup>1</sup>Department of Internal Medicine, Yale New-Haven Hospital and Yale School of Medicine, New Haven, CT

<sup>2</sup>Division of Digestive Diseases and Advanced Endoscopy, Yale University School of Medicine, New Haven, CT

## CASE REPORT

A 55-year-old woman presented with a 3-year history of gradually progressive postprandial epigastric fullness. Esophagogastroduodenoscopy revealed a large, broad-based mass in the medial wall of the duodenal bulb (Figure 1). Endoscopic ultrasound showed a large, hyperechoic lesion originating from the submucosal layer of the duodenal wall consistent with a lipoma, and computed tomography of the abdomen with contrast suggested the presence of a homogeneous mass with uniform fat density in the duodenal bulb (Figure 2). Endoloop (Olympus Optical Co, Ltd, Japan) ligation was performed with a double-channel therapeutic upper endoscope (GIF-190, Olympus) deployed in 3 steps (loop placement, tightening, and detachment; Video 1 [watch the video at <http://links.lww.com/ACGCR/A18>]). The mass was positioned in the 6-o'clock position to aid loop placement around the base of the broad stalk. The loop was tightened until a dark color change indicating strangulation and congestion was seen. After adequate tightening via the loop handle, the loop was detached by pushing the slider forward (Figure 3). Diluted epinephrine 1:10,000 was injected into the base of the stalk and the tumor was completely resected above the loop using a snare cautery, and hemoclips were placed at the base for additional hemostasis. The resected tumor measured approximately 5 × 4 cm. Histopathological examination revealed a well-differentiated adipose tumor (lipoma), which was completely covered by a fibrous capsule (Figure 4). There were no complications related to the procedure. No residual tissue was observed on repeat endoscopic examination after 1 month, and the patient remained asymptomatic.

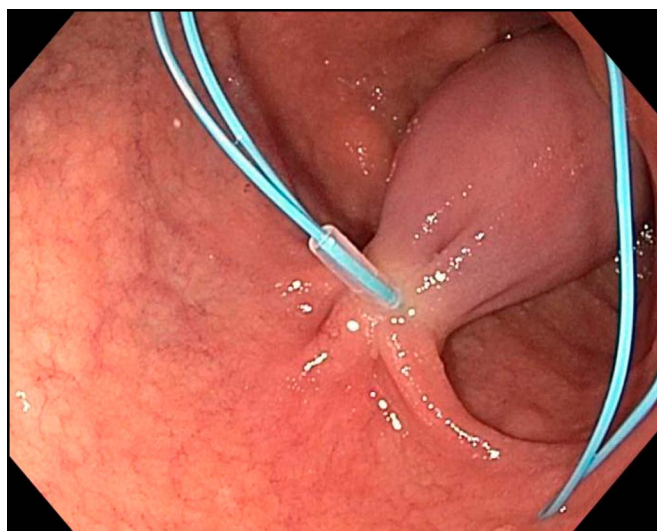
The duodenum is a very rare site for gastrointestinal lipomas. A majority of them arise from the submucosa and are located in the second part of the duodenum. Most of them are asymptomatic and incidentally discovered during esophagogastroduodenoscopy,



**Figure 1.** Esophagogastroduodenoscopy showing a mass with a broad base in the medial wall of the duodenal bulb.



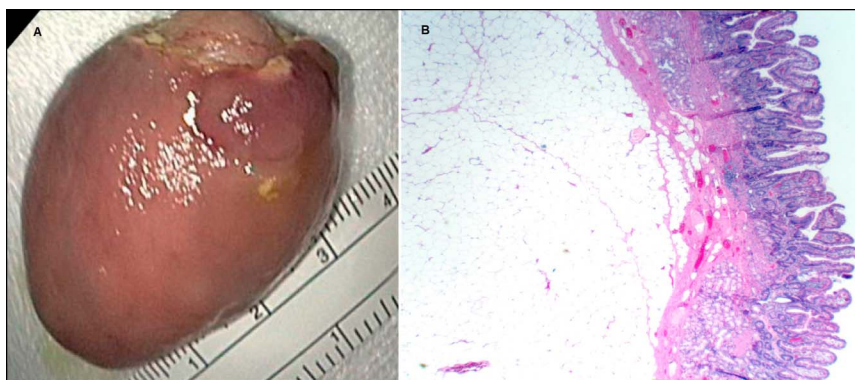
**Figure 2.** Endoscopic ultrasound showing (A) a large duodenal mass arising from the submucosa (arrows) and contrast-enhanced computed tomogram of the abdomen showing (B) a mass (arrow) at the duodenal bulb with homogeneous fat density.



**Figure 3.** Endoloop tightened at the base of the mass before resection using a snare cautery.

although lipomas larger than 4 cm can cause symptoms ranging from early satiety to gastric outlet obstruction. Endoscopic ultrasound is helpful in better characterizing these masses and in guiding tissue sampling. Symptomatic tumors are usually removed endoscopically, although larger ones may require surgical resection. Snare polypectomy, unroofing, endoloop, and

submucosal dissection are some of the techniques that have been described for endoscopic therapy.<sup>1</sup> Larger lesions with a broad base are associated with a higher risk of perforation and bleeding during endoscopic removal.<sup>2</sup> Endoloop ligation is a safe and effective strategy in the resection of large submucosal tumors by providing hemostasis before resection.<sup>3</sup>



**Figure 4.** (A) Resected duodenal tumor and its histopathology revealing (B) adipose cells covered by a fibrinous layer.

**Video 1.** Endoloop ligation of a duodenal lipoma performed with a double-channel therapeutic upper endoscope (watch the video at <http://links.lww.com/ACGCR/A18>).

## DISCLOSURES

Author contributions: K. Gnanapandithan wrote the manuscript. H. Aslanian and PA Jamidar revised the manuscript for intellectual content. T. Muniraj wrote and revised the manuscript for intellectual content, and is the article guarantor.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received November 6, 2019; Accepted December 19, 2019

## REFERENCES

1. Gaspar JP, Stelow EB, Wang AY. Approach to the endoscopic resection of duodenal lesions. *World J Gastroenterol.* 2016;22(2):600–17.
2. Ren Z, Lin SL, Zhou PH, et al. Endoscopic full-thickness resection (EFTR) without laparoscopic assistance for nonampullary duodenal subepithelial lesions: Our clinical experience of 32 cases. *Surg Endosc.* 2019;33(11):3605–11.
3. Yaman I, Derici H, Paksoy S. Symptomatic duodenal lipoma with endoscopic snare polypectomy. *Ulus Cerrahi Derg.* 2014;30(2):103–5. [Turkish.]

---

**Copyright:** © 2020 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of The American College of Gastroenterology. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.