Polypoid Gastric Adenomyoma: A Rare Cause of Bleeding Treated With Polypectomy

Ayushi Shah, MD1, Zunirah Ahmed, MD2, Jae Y. Ro, MD, PhD3, and Gulchin A. Ergun, MD2

1Department of Internal Medicine, Houston Methodist Hospital, Houston, TX
2Division of Gastroenterology and Hepatology, Lynda K. and David M. Underwood Center for Digestive Disorders, Houston Methodist Hospital, Houston, TX
3Department of Pathology and Genomic Medicine, Houston Methodist Hospital, Houston, TX

ABSTRACT

Gastric adenomyoma is a rare tumor composed of smooth muscle fibers and glandular tissue. Usual presentations include nausea, bloating, and gastric outlet obstruction. We describe a case of a 60-year-old woman who presented with abdominal pain and melena. Endoscopy showed a 1.5 cm polyp in the stomach body that was resected using snare polypectomy. Biopsy showed glands mixed with fibromuscular tissue consistent with gastric adenomyoma. We conclude that gastric adenomyoma, although rare, may present as a bleeding polyp in the stomach body and may be treated with excisional polypectomy.

INTRODUCTION

Gastric adenomyoma is a benign tumor composed of smooth muscle fibers admixed with glandular tissue found in the submucosa. It was first reported by Magnus-Alsleben in 1903, and nearly 67 cases of gastric adenomyomas have been described through 2017. There are various theories regarding the etiology of adenomyomas, indicating that gastric adenomyoma may be a form of epithelial hamartoma or heterotopic pancreatic tissue. Although it is considered a benign tumor, a malignant potential has been reported. The main differential diagnosis includes well-differentiated gastric adenocarcinoma, gastritis cystica polyposa/profunda, gastric duplication cyst, or gastric diverticulum. Histology remains the mainstay of differentiating gastric adenomyoma from these entities. Patients often present with none or nonspecific gastrointestinal symptoms such as nausea or bloating. We present a case report, which to the best of our knowledge, is the second case of gastric adenomyoma presenting with melena and a review of the literature.

CASE REPORT

A 60-year-old woman presented with epigastric abdominal pain, unintentional 33 lb weight loss, and intermittent melena for 3 months. Medical history was significant for irritable bowel syndrome and gluten intolerance that was well controlled with diet. There was no history of tobacco or alcohol use. On physical examination, her abdomen was soft, nontender, and without organomegaly. Testing showed normocytic anemia with a hemoglobin of 11.6 g/dL. An abdominal computed tomography scan was unremarkable. Upper gastrointestinal endoscopy revealed a 1.5 cm semipedunculated polyp, Paris Isp, in the gastric body, which was the same color as background tissue, smooth, and without mucus or vessels (Figure 1). There was a heterogenous surface pattern with uniform pitting near the base, but not the tip, although the mucosal pattern was partially obscured by blood. No ulcerations or depressions were noted. The polyp was resected, and other small sessile polyps were biopsied. On microscopy, the 1.5 cm polyp revealed hyperplastic, dilated foveolar glands with fibromuscular hyperplasia consistent with gastric adenomyoma and the other polyps were felt to be secondary to reactive gastropathy (Figure 2). Six weeks later, she reported no further symptoms and her hemoglobin remained stable.

DISCUSSION

Gastric adenomyomas are rare submucosal tumors found in only <10% of surgically resected gastric masses. The average size of an adenomyoma ranges from 0.6 to 4.5 cm and is most commonly found in the antrum and pylorus (85% and 15%, respectively), duodenum (17%–36%), jejenum (15%–21%), and rarely in the gastric body as in this case. Its rare occurrence can be ascribed to...
the fact they are frequently asymptomatic.\textsuperscript{11–13} Commonly, gastric adenomyoma appears as antral or pyloric wall thickening, 3 cm or larger, and in such cases, it presents as nausea, vomiting, and epigastric pain with features of gastric outlet obstruction if the pyloric wall thickening is severe.\textsuperscript{1,4} Polypoid appearances have rarely been described.\textsuperscript{12} We believe mucosal erosion at the polyp was the cause of bleeding in this patient with abdominal pain and melena leading to decreased oral intake and weight loss.

Although the malignant potential is unknown, the simultaneous presence of adenocarcinoma and adenomyoma has been reported.\textsuperscript{7,14,15} On endoscopy, biopsy at the subepithelial lesion is often nondiagnostic and biopsy does not provide adequate sampling to represent the deeper layer of the gastric wall; thus, endoscopic or surgical resection is advised.\textsuperscript{3} On histology, glandular structures lying in the submucosa or muscularis layer may be suspicious for adenocarcinoma, and these should be differentiated by careful attention to the cells’ mitotic activity, relationship with the surrounding tissues, and nuclear appearance. Weight loss in this patient was concerning for malignancy but was excluded by histology, and the resection had clear margins.

When gastric adenomyoma presents as antral or pyloric wall thickening, they are often treated with laparoscopic wedge resection.\textsuperscript{1,4,16} Rarely, polyps are encountered, and surgery is avoided with the use of snare polypectomy.\textsuperscript{12,17} Recurrence after resection has not been described.\textsuperscript{1,3,6} In East Asia, endoscopic submucosal dissection has been used in \textit{en bloc} resection of gastric submucosal eminence lesions. Wang et al reported a series of 15 gastric adenomyomas appearing as mucosal eminences, sized 0.4–3 cm, treated endoscopically, of which, 2 were found in the body and 1 presented with melena.\textsuperscript{5}

In few cases, endoscopic ultrasound has been used to obtain useful information about the location of the tumor in the stomach wall to guide selection of candidates who can be treated with endoscopic removal vs laparoscopic resection based on the location in the submucosa or muscularis propria, respectively.\textsuperscript{18} In our case, owing to the polypoid appearance, endoscopic polypectomy was possible; thus, endoscopic ultrasound was not attempted.

In summary, gastric adenomyoma should be considered in the differential for subepithelial polyps and careful differentiation from adenocarcinoma using histology should be performed. Resection options include laparoscopic wedge resection when the appearance is thickening of the antrum or pyloric wall and endoscopic polypectomy and submucosal dissections for polypoid appearances.

Gastric adenomyomas are rare benign tumors but should be considered as potential causes of gastric bleeding and are amenable to endoscopic therapy by polypectomy.

**DISCLOSURES**

Author contributions: A. Shah wrote and revised the case report. Z. Ahmed had direct involvement with clinical care and follow-up of the patient and wrote and revised the case report. JY Ro revised the case report, made the histological diagnosis, and recorded the images. G. Ergun had direct involvement with clinical care, follow-up of the patient, and wrote and revised the case report. All authors meet the significant author contribution requirements per ICMJE. A. Shah is the article guarantor.

Financial disclosure: None to report.

Previous presentation: The case report was presented as a poster at the American College of Gastroenterology; October 23, 2021; Las Vegas, Nevada.
Informed consent was obtained for this case report.

Received July 21, 2022; Accepted September 16, 2022

REFERENCES

1. Yoon KH, Eun DY, Kim JH, Lee SO, Kim HS, Lee DW. Gastric adenomyoma in the stomach body: A case report. J Med Case Rep. 2014;8:385.
2. Magnus-Alsleben E. Adenomyome des Pylorus. Virchows Arch Pathol Anat Physiol. Klin Med. 1903;173(1):137–55.
3. Duran Álvarez MA, Gómez López JR, Guerra Garijo T. Gastric adenomyoma: The unexpected mimicker. GE Port J Gastroenterol. 2014;24(4):198–202.
4. Kerkez MD, Lekić NS, Culafić DM, et al. Gastric adenomyoma. Vojnosanit Pregl. 2011;68(6):519–22.
5. Li K, Xu Y, Liu NB, Shi BM. Asymptomatic gastric adenomyoma and heterotopic pancreas in a patient with pancreatic cancer: A case report and review of the literature. World J Clin Cases. 2021;9(27):8147–56.
6. Wang S, Cao H, Zhang Y, et al. Endoscopic submucosal dissection for gastric adenomyoma: A rare entity of 15 cases among 571 patients with gastric submucosal eminence lesions. Medicine. 2017;96(9):e6233.
7. Chapple CR, Muller S, Newman J. Gastric adenocarcinoma associated with adenomyoma of the stomach. Postgrad Med J. 1988;64(756):801–3.
8. Kelly PJ, Lauwers GY. Gastric polyps and dysplasia. Diagn Histopathol. 2011;17(2):50–61.
9. Zhu HN, Yu JP, Luo J, Jiang YH, Li JQ, Sun WY. Gastric adenomyoma presenting as melena: A case report and literature review. World J Gastroenterol. 2010;16(15):1934–6.
10. Choi YB, Oh ST. Laparoscopy in the management of gastric submucosal tumors. Surg Endosc. 2000;14(8):741–5.
11. Bedir R. Gastric adenomyoma determined incidentally during sleeve gastrectomy: A case report. J Clin Anal Med. 2018;9(4):350–2.
12. Park SH, Kim J, Kim M, et al. Adenomyoma in the body of stomach presenting as a pedunculated polyp treated by endoscopic mucosal resection. Korean J. 2016;16(1):31–3.
13. Lee H, Jang YJ, Heo J. A rare case of cystic subepithelial tumor in the stomach: Gastric adenomyoma. Korean J Radiol. 2015;16(6):389.
14. Kanehira E, Kawaura Y, Ohta Y, Tanaka I, Kawada N, Nonomura A. Adenomyoma in association with early gastric carcinoma. Gan No Rinsho. 1990;36(14):2475–9.
15. Kneafsey PD, Demetrick DJ. Malignant transformation in a pyloric adenomyoma: A case report. Histopathology. 1992;20(5):433–5.
16. Reardon PR, Schwartz MR, Fagan SP, Reardon MJ, Brunicardi FC. Completely laparoscopic resection of a rare pyloric tumor with laparoscopically sutured gastroduodenostomy. J Laparoendosc Adv Surg Tech A. 1999;9(2):147–54.
17. Taub SJ, Horsburgh DS. Adenomyomatous polyp of the stomach. South Med J. 1980;73(2):243–4.
18. Matsushita M, Takakuwa H, Nishio A. Endosonographic features of gastric adenomyoma, a type of ectopic pancreas. Endoscopy. 2003;35(7):621–2; author reply 623.

Copyright: © 2022 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.