

Gastrointestinal bleeding as an initial manifestation of gastric lipoma: Case report and review of the literature

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Abstract

Gastric lipoma should be considered as a rare differential diagnosis in patients presenting with gastrointestinal bleeding. Diagnosis is mainly done by radiologic and endoscopic findings. It presents characteristic pathognomonic endoscopic signs.

KEYWORDS

endoscopy, gastrointestinal bleeding, Lipoma, stomach

1 | INTRODUCTION

A 40-year-old man was admitted to the hospital for hematemesis. Endoscopy, endoscopic ultrasound, and computerized tomography revealed a 4-cm submucosal mass located in the gastric antrum. The patient underwent surgery (partial gastrectomy). Histological examination confirmed a submucosal lipoma. Outcome was favorable after surgery.

Gastric lipoma represents 1%-3% of all gastric tumors. It is generally asymptomatic, fortuitously discovered during the endoscopic or radiological examination. Rarely, it can cause bleeding due to mucosal erosion, gastric outlet obstruction, or gastroduodenal intussusception.^{1,2} A case of gastric lipoma presenting with gastrointestinal bleeding is presented with a short review of the literature.

2 | CASE REPORT

A 40-year-old man presented to the emergency department with a sudden episode of hematemesis. The patient had no past medical history. No history of smoking or alcohol consumption

was reported. There was also no intake of nonsteroidal anti-inflammatory drugs. On examination, vital signs were stable. The abdomen was soft, not distended with no evidence of organomegaly. The rectal examination showed no melena. The hemoglobin level was 11 g/dL (baseline hemoglobin level was 13 g/dL). Upper endoscopy showed a yellowish submucosal tumor measuring 4 centimeters arising from the antrum with ulceration on top (Figure 1) and a positive pillow sign. A computerized tomography scan of abdomen with IV contrast showed a well-circumscribed hypodense submucosal gastric tumor (Figure 2). There was no lymphadenopathy or any other significant abnormalities in the abdomen. Endoscopic ultrasound confirmed the presence of submucosal hyperechoic tumor measuring 4 cm, arising from the 3rd layer, with no evidence of perigastric lymph node enlargement. (Figure 3). The mucosal biopsy was negative. The patient underwent surgery (partial gastrectomy). The outcome was favorable after surgery. He was seen in the outpatient clinic one month later. Histological examination confirmed the diagnosis of submucosal lipoma and ulceration of the overlying mucosa (Figure 4). No bleeding recurrence occurred during follow-up, and the hemoglobin level was stable (12.2 g/dL).

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FIGURE 1 Endoscopic view: submucosal antral lesion of 4 cm

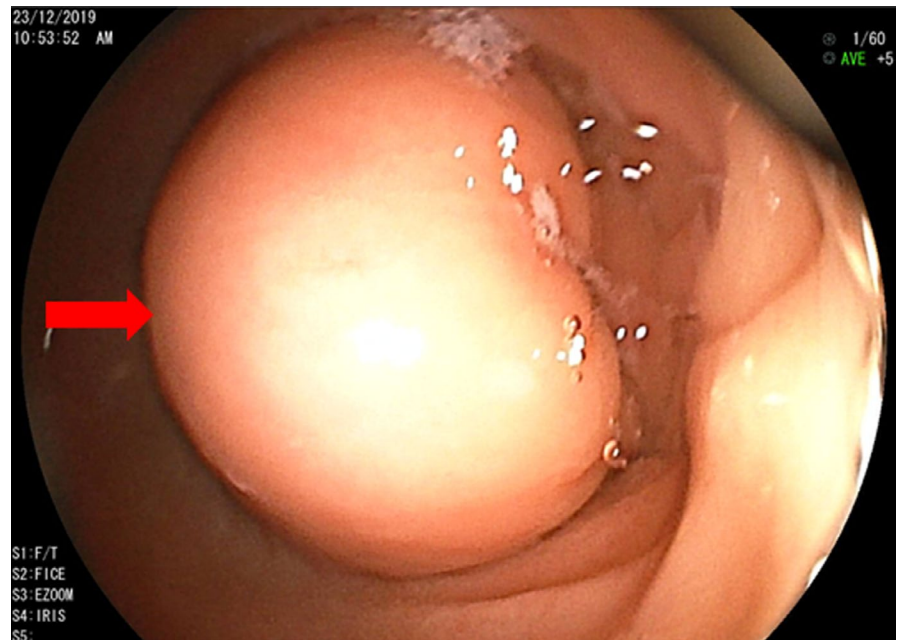
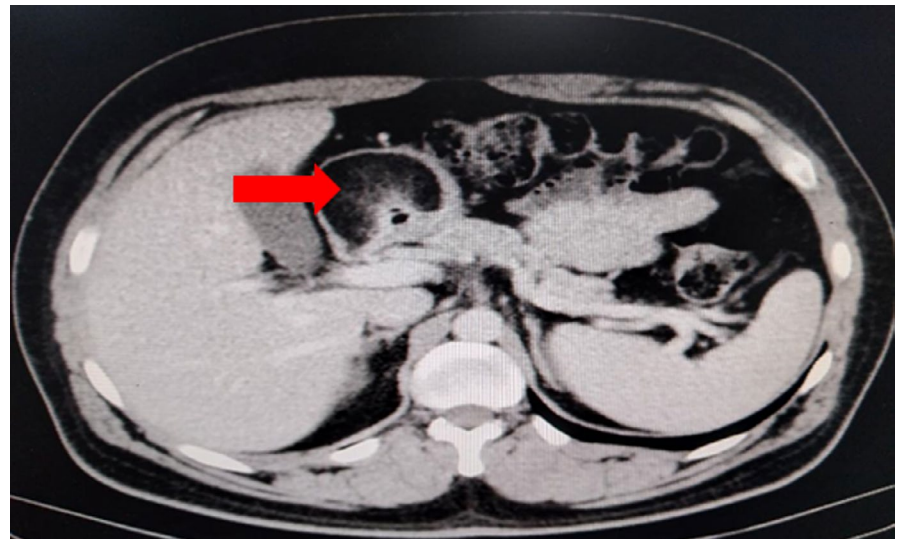


FIGURE 2 CT scan: The tumor is hypodense and heterogeneous



3 | DISCUSSION

Lipomas are common benign tumors in the gastrointestinal tract. They are most commonly found in the colon followed by the stomach and the small intestine.³ Histologically, it is an intramucosal mesenchymal tumor of mature adipocytes.

The tumor is generally asymptomatic, fortuitously found during the endoscopic or radiological examination.^{1,3} The differential diagnosis includes other submucosal gastric tumors: stromal tumor, liposarcoma, fibroma, or a glomus tumor. The diagnosis is made by endoscopy and radiology. Lipomas have characteristic endoscopic findings, which helps in preresection diagnosis. It is yellow-colored and has the following signs: pillow sign (impression after compressing the tumor with forceps), a « tenting » sign (easy retraction

of the overlying mucosa with a biopsy forceps), and a naked fat sign (bite-on-bite forceps biopsy reveals lipocyte) which is pathognomonic of gastrointestinal lipoma.³⁻⁵ Endoscopic biopsy is usually inconclusive since the tumor is frequently submucosal. Endoscopic ultrasound reveals hyperechoic lesion with homogeneous pattern and well-circumscribed borders arising from the submucosa.⁴ Computerized tomography scan shows well-circumscribed submucosal masses with uniform fat density.⁵

Gastric lipoma has a low risk of malignant transformation, and therefore, when it is asymptomatic, it requires neither resection nor surveillance.³ Rarely, large gastric lipoma (>4 cm) can cause bleeding due to mucosal erosion or gastric outlet obstruction.^{1,2} In a series of 32 patients with giant gastric lipoma, the main risk factor of bleeding was an

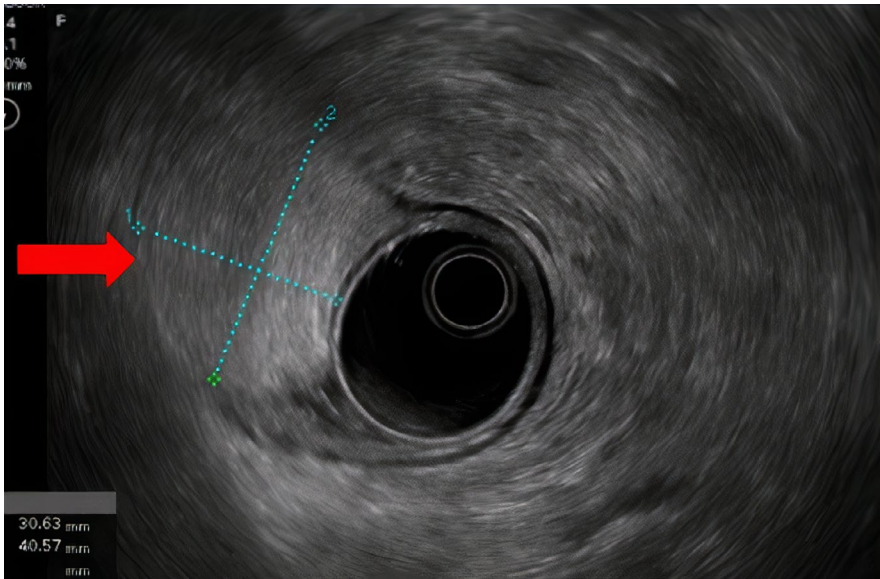


FIGURE 3 Endoscopic ultrasound: submucosal hyperechoic tumor measuring 4 cm seeming to develop on the 3rd layer

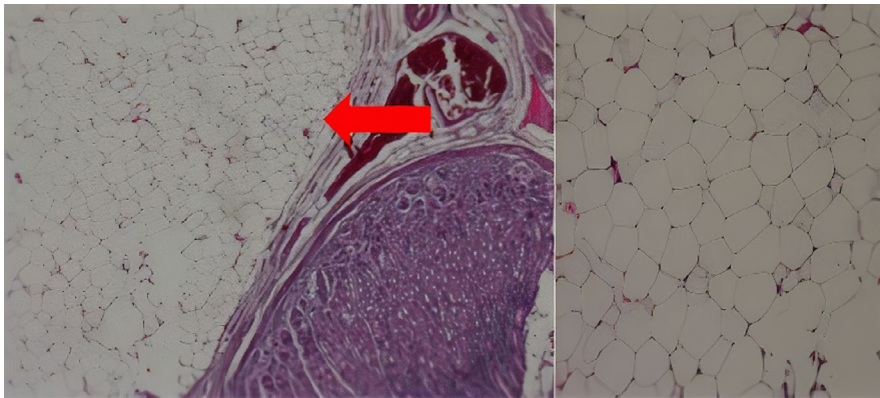


FIGURE 4 Histopathological examination: mature lipoma

ulcer overlying the lipoma.⁶ The lipoma can ulcer because of venous stasis, friction, and trauma of the lipoma against the contralateral gastric wall.⁶ When it is complicated, the lipoma must be resected. Classically, it is a surgical excision: partial gastrectomy or enucleation. Endoscopic resection may be proposed, especially in patients with comorbidities.⁷ Kwang J L et al reported a case series of 28 successful endoscopic resections of gastrointestinal lipoma (of which 5 in the stomach) without serious complications.⁷ In this series, the endoscopic treatment of gastric lipomas was performed by either endoscopic mucosal resection after precutting (EMR-P) or endoscopic submucosal dissection (ESD).⁷ Another series including 15 patients with large gastrointestinal lipoma >2 cm (of which 3 in the stomach) also reported successful snare resection without perforation or bleeding.⁸

In our case, it was a large lipoma responsible for gastrointestinal bleeding; hence, resection was performed. Since it was a young patient without comorbidities, we opted for surgical resection.

We summarize different cases of gastric lipoma presenting with gastrointestinal bleeding reported in the literature in Table 1. The mean age was 63.3 years (37-85), and the sex ratio M/W was 2.2. The main location of the gastric lipoma was the antrum.^{1,2,6,13-15} The mean size of the lesion was 6.8 cm.³⁻¹⁷ Eleven patients underwent surgical resection, and 5 patients underwent endoscopic resection. This current literature review is limited by the paucity of the literature, which is mainly based on single case reports that were reported retrospectively.

4 | CONCLUSION

The lipoma is a rare cause of gastrointestinal bleeding. Classically, in case of complications such as bleeding, surgical resection is the standard treatment. However, in patients with comorbidities, endoscopic resection may be discussed.

TABLE 1 Different cases of gastric lipoma revealed by a gastrointestinal bleeding reported in the literature

Reference	Year	Location	Size	Shape	Treatment
Regge et al ⁹	1999	Antrum	3.5 cm	Roundish + ulceration at the summit	Partial gastrectomy
Paksoy et al ¹⁰	2005	Antrum	4 cm	Roundish + ulceration at the summit	Enucleation
Kibria et al ¹¹	2009	Greater curve	5 cm	Broad-based polypoid lesion + 2 ulcerations	Surgical resection
Sadio et al ⁵	2010	Fundus	4 cm	Roundish + ulceration at the summit	Partial gastrectomy
Ramdas et al ¹²	2013	Junction body-antrum	4 cm	Pedunculated	Surgical resection
Kumar et al ²	2015	Antrum	NA	NA	Surgical resection
Almohsen et al ¹³	2015	Antrum	8.5 cm	NA	Enucleation
Suarez et al ¹⁴	2016	Antrum	NA	NA	Stepwise endoscopic snare resection
Krishnaraj et al ¹⁵	2017	Antrum	8 cm	Bulge + ulceration at the summit	Enucleation
Termos et al ¹⁶	2017	From the gastroesophageal junction to the pylorus along the lesser curvature	17 cm	Bulge + 4 cm linear ulceration	Enucleation
Koukias et al ¹⁷	2017	Greater curvature	3 cm	NA	Hybrid endoscopic submucosal dissection
Cappel et al ⁶	2017	Antrum	13 cm	NA	Partial gastrectomy
Cappel et al ⁶	2017	Antrum	9 cm	NA	Partial gastrectomy
Yen et al ³	2018	Antrum	4 cm	NA	Endoscopic resection
Sharayah et al ¹	2019	Antrum	5 cm	NA	Peace-meal resection
Han et al ¹⁸	2019	Antrum	7 cm	NA	Endoscopic submucosal dissection

Abbreviation: NA, not available.

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CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

MS and NA: wrote the paper. NB: reviews the literature. IH: contributes by the pathology pictures as well as the interpretation of figures. AO and DG: performed the endoscopy and EUS.

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