Case Report

ANNALS OF MEDICINE & SURGERY

OPEN

Gastric lipoma in the pyloric antrum: a rare case report

Moatasem A. Hussein Al-janabi, MD[a,*], Jollanar G. Mohammad, MS[d], Aya Y. Mohsen, MS[d], Zeina Alabbas, MD[c], Omeed Rasheed, MD[b], Samir Kannan, MD, PhD[b], Ali K. Daoud, MD, PhD[c]

Introduction and importance: Gastric lipoma (GI) is a rare benign tumor of the stomach that arises from adipose tissue. It is often asymptomatic and is incidentally diagnosed on endoscopy or imaging studies.

Case presentation: A 66-year-old male presented with epigastric pain and acid reflux. Upper gastrointestinal endoscopy revealed a 3-cm submucosal lesion in the pyloric antrum. The patient underwent a subtotal gastrectomy. The specimen was sent to the pathology department. Based on the microscopic findings, the diagnosis was a submucosal GI.

Discussion: The diagnosis of GIs is usually made incidentally during imaging studies. Treatment options include endoscopic or surgical resection; however, conservative management can be considered in asymptomatic patients. Periodic radiological surveillance is recommended to monitor growth and assess for any malignant transformation.

Conclusion: GI is a rare tumor that is usually asymptomatic but can present with nonspecific gastrointestinal symptoms. The diagnosis is confirmed through histological examination, and imaging techniques such as computed tomography or MRI can be useful in preoperative evaluation. Surgical resection remains the primary treatment, while endoscopic resection may be considered in certain cases.

Keywords: benign, fat tissue, gastric, lipomas, tumors

Introduction

Gastrointestinal (GI) lipomas are rare tumors, especially gastric ones, which make up only 5% of all GI lipomas and 2–3% of all benign gastric tumors[1,2]. The most frequently located is in the pyloric antrum and preferred submucosa in 90–95% of all cases[3,4]. Generally, most GI lipomas are asymptomatic, especially the small ones, while larger ones can cause upper GI dysfunction and bleeding[5]. Here, we highlight an unusual case of gastric lipoma (GI).

This case report has been reported in line with the SCARE (Surgical CAse REport) criteria for 2020[6].

HIGHLIGHTS

- Gastric lipoma (GI) is a rare benign tumor of the stomach that arises from adipose tissue.
- It is often asymptomatic and is incidentally diagnosed on endoscopy or imaging studies.
- Diagnosis of GIs is usually made incidentally on imaging studies.
- Treatment options for GIs include endoscopic or surgical resection.

Case presentation

A 66-year-old male came to the hospital with epigastric pain and acid reflux. The patient had no remarkable personal or family history. He was a nonsmoker and non-alcoholic. Routine blood tests were within normal limits. He underwent an upper GI endoscopy to rule out *Helicobacter pylori* infection. The endoscopy showed congested areas in the antrum of the stomach with an oval-shaped mass extended into the lumen and located in the anterior wall of the pyloric antrum, measured ~3 cm. He was diagnosed with gastrointestinal stromal tumor (GIST). Consequently, the patient underwent a subtotal gastrectomy. The specimen was sent to the pathology department. On gross examination, the mass was soft, well-circumscribed, and measured 3 cm. Several sections were taken from one cassette. Microscopically, benign and well-circumscribed adipose tissue in the submucosa. Overlying mucosa is usually normal (Figs 1, 2). Based on the microscopic findings, the final diagnosis was a submucosal GI. The patient recovered well, and after 6 months of follow-up, there have been no complications.

Discussion

GLs are uncommon benign tumors with unclear etiology. They form only 5% of all alimentary tract lipomas and less than 1% of all gastric tumors[7]. The symptoms depend on the size and location of the tumors. Small GLs (< 4 cm) are usually silent and

[a]Department of Pathology, Cancer Research Center, Tishreen University Hospital, [b]Department of General Surgery, [c]Department of Pathology, Tishreen University Hospital and [d]Faculty of Medicine, Tishreen University, Lattakia, Syria

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

*Corresponding author. Address: Department of Pathology, Cancer Research Center, Tishreen University Hospital, Lattakia, Syria. Tel.:/ Fax: +963 992 420 677. E-mail: dr.3esami2022@gmail.com (M.A. Hussein Al-janabi).

Annals of Medicine & Surgery (2023) 85:5110–5112

Received 30 May 2023; Accepted 25 July 2023

Published online 4 August 2023

http://dx.doi.org/10.1097/MS9.0000000000001131

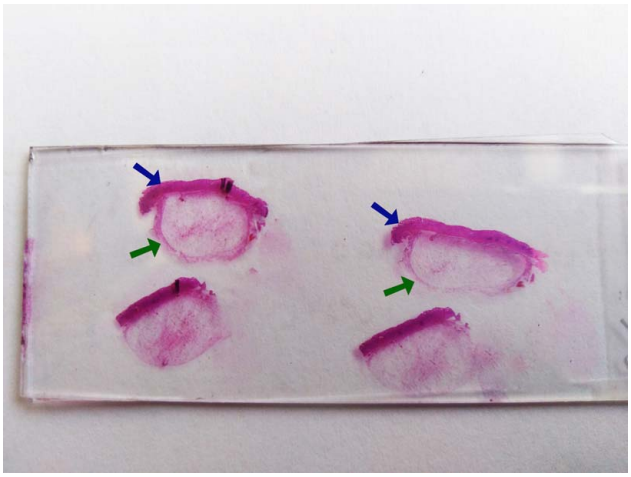

Figure 1. A gross photograph of the objective plate shows the submucosal lipoma, where both gastric mucosa (blue arrow) and lipoma (green arrow) are present.

discovered incidentally, while larger ones can cause GI bleeding, abdominal pain, intussusception, or even bowel obstruction[8]. GIs are usually arising from the submucosa (95%) and tend to occur between the fourth and fifth decades of life, mainly in women[9,10]. Endoscopically, they usually appear as smooth, oval, or round, sharply defined yellow-cooled masses covered by normal mucosa[11]. The main differential diagnoses are other submucosal gastric tumors like GIST, liposarcoma, and fibroma[5]. In fact, GLs can be recognized based on some endoscopic signs such as 'the tenting sign', 'Pillow sign cushion sign', and 'naked fat sign'[12,13]. Computed tomography (CT) can also be an excellent adjacent diagnostic tool because it allows the diagnosis of lipoma based on tumor fat density, precluding the need for an endoscopic biopsy[14]. However, sometimes CT did not reveal the GIs, probably when the CT slices are too wide[14]. Treatment for GI is still controversial and a lot of surgical and endoscopic procedures were reported as a treatment of submucosal lipomas[15]. The treatment of lipoma depends on its symptoms; symptomatic lipomas usually require surgical intervention if the lesion is larger than 2 cm, like in our case, where traditional surgical excision becomes the standard treatment. Small lesions (<2 cm) can be removed endoscopically by submucosal dissection, snare polypectomy, band ligation, or unroofing[15].

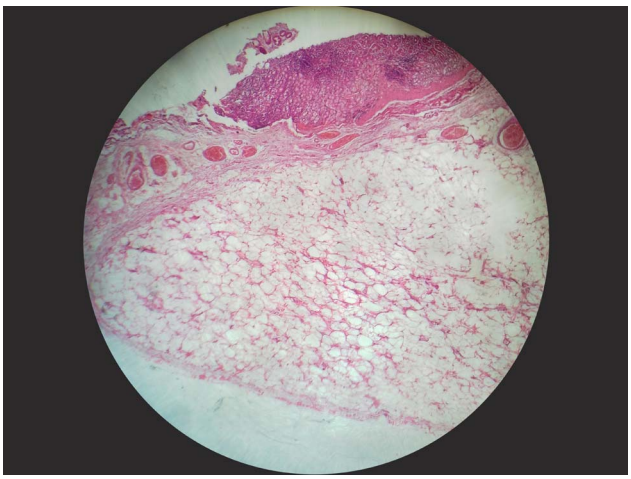

Figure 2. A microscopic image of the mass shows benign and well-circumscribed adipose tissue in the submucosa. Overlying mucosa is usually normal (hematoxylin and eosin stain) (×40).

Conclusion

GI is a rare tumor that is usually asymptomatic but can present with nonspecific GI symptoms. The diagnosis is confirmed through histological examination, and imaging techniques such as CT or MRI can be useful in preoperative evaluation. Surgical resection remains the primary treatment, while endoscopic resection may be considered in certain cases.

Ethical approval

This study is exempt from ethical approval in our institution (Faculty of Medicine, Tishreen University).

Consent

Written informed consent was obtained from the patient for the publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Sources of funding

None.

Author contribution

M.A.H.A.: study design, data collections, data analysis, and writing; J.G.M. and A.Y.M.: study design, data analysis, and writing; Z.A.: data analysis and writing; S.K. and O.R.: performed this surgery and data collection; A.K.D.: reviewing the manuscript.

Conflicts of interest disclosure

The authors declare that they have no conflicts of interest.

Research registration unique identifying number (UIN)

1. Name of the registry: Research Registry.
2. Unique identifying number or registration ID: research registry9095.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): https://www.researchregistry.com/register-now#userresearchregistry/registerresearchdetails/64764574e93643002708747d/.

Guarantor

Moatasem Ali Hussein Al-janabi.

Data availability statement

None.

Provenance and peer review

Not commissioned, externally peer-reviewed.

References

[1] Krasniqi AS, Hoxha FT, Bicaj BX, *et al*. Symptomatic subserosal gastric lipoma successfully treated with enucleation. World J Gastroenterol 2008;14:5930–2.

[2] Nickloes TA, Sutphin DD. Lipomas: background, pathophysiology and etiology. Medscape (2017). Retrieved 12/15/2017. https://emedicine.medscape.com/article/191233

[3] Saltzman JR, Carr-Locke DL, Fink SA. Lipoma case report. MedGenMed 2005;7:16.

[4] Tomofuji K, Watanabe J, Ishida N, *et al*. Gastric liposarcoma resected by laparoscopic total gastrectomy to achieve a wide surgical margin. BMJ Case Rep 2017;2017:bcr2017221703.

[5] Ramdass MJ, Mathur S, Seetahal-Maraj P, *et al*. Gastric lipoma presenting with massive upper gastrointestinal bleeding. Case Rep Emerg Med 2013;2013:506101.

[6] Agha RA, Franchi T, Sohrab C, *et al*. The SCARE 2020 guideline: updating consensus Surgical CAse REport (SCARE) guidelines. Int J Surg 2020;84:226–30.

[7] Thompson WM, Kende AI, Levy AD. Imaging characteristics of gastric lipomas in 16 adult and pediatric patients. AJR Am J Roentgenol 2003;181:981–5.

[8] Kumar S, Kumar A, Dayal M, *et al*. Gastric lipoma: a rare cause of massive haematemesis. Ann R Coll Surg Engl 2021;103:e196–8.

[9] Hamdane MM, Brahim EB, Salah MB, *et al*. Giant gastric lipoma mimicking well-differentiate liposarcoma. Gastroenterol Hepatol Bed Bench 2012;5:60–3.

[10] Kamata T, Mochizuki Y, Koshikawa K, *et al*. A case of gastric lipoma presenting as gastrointestinal hemorrhage [in Japanese, abstract in English]. J Jpn Surg Assoc 2009;70:2682–5.

[11] Neto FAF, Ferreira MCF, Bertoncello LCN, *et al*. Gastric lipoma presenting as a giant bulging mass in an oligosymptomatic patient: a case report. J Med Case Rep 2012;6:317.

[12] Chu AG, Clifton JA. Gastric lipoma presenting as peptic ulcer: case report and review of the literature. Am J Gastroenterol 1983;78:615–8.

[13] Maderal F, Hunter F, Fuselier G, *et al*. Gastric lipomas—an update of clinical presentation, diagnosis, and treatment. Am J Gastroenteol 1984;79:964–7.

[14] Yamamoto T, Imakiire K, Hashiguchi S, *et al*. A rare case of gastric lipoma with early gastric cancer. Intern Med 2004;43:1039–41.

[15] Nasa M, Choksey A, Phadke A, *et al*. Gastric lipoma: an unusual case of dyspeptic symptoms. BMJ Case Rep 2016;2016:bcr2016215297.