Case Report

Initial Miss but Caught Early! Gastric Gastrointestinal Stromal Tumor

Raghav Chawla, Chiranth Gowda, Kantilatha Pai[1], Gabriel Rodrigues

Departments of General Surgery and [1]Pathology, Kasturba Medical College, Manipal Academy of Higher Education, Manipal, Karnataka, India

Abstract

Gastrointestinal stromal tumors (GISTs) commonly occur in the stomach and small intestine, are great mimickers of benign as well as malignant conditions, and can lead to diagnostic dilemma. A misdiagnosis of a malignant tumor directly affects the prognosis of a patient. We present the case of a 32-year-old male with symptoms of acid peptic disease who underwent a diagnostic upper gastrointestinal (UGI) endoscopy and was diagnosed to have a gastric ulcer without a biopsy. As his symptoms persisted along with melena, he visited our center and was found to be severely anemic and tachycardic. A repeat UGI endoscopy revealed a gastric tumor that was resected and reported to be GIST. The deceptive looks of a benign gastric ulcer and deferring a biopsy at the first UGI endoscopy delayed the diagnosis in this patient which is definitely an error. The case illustrates that one should consider a differential diagnosis of GIST in ulcerative and bleeding gastric lesions.

Keywords: *Bleeding, gastrointestinal stromal tumor, imatinib, melena, resection, stomach*

Introduction

Gastrointestinal stromal tumors (GISTs) are mesenchymal intramural tumors, are rare, represent approximately 0.1%–3% of all gastrointestinal (GI) cancers, and largely affect the stomach (60%–70%).[1] Their mere appearance can lead to clinical conundrums as they can be mistaken for benign ulcers to malignant growths. GISTs are thought to originate from the interstitial cells of Cajal, the pacemaker cells of GI movement. Mutation of KIT and platelet-derived growth factor receptor-alpha genes is implicated in the tumorigenesis.[2] They are considered to be potentially malignant tumors. The differential diagnoses include leiomyoma, schwannoma, and lipoma.[3] Although imaging tests including endoscopic ultrasonography (EUS) and computed tomography are useful for narrowing down the differential diagnoses, they are largely inconclusive. EUS-guided fine-needle aspiration is the most accurate, safe, and reliable preoperative immunohistological test to secure a definitive diagnosis.[4] A biopsy or resection is a must to arrive at a diagnosis, and as there is no lymph nodal metastasis, laparoscopic resections are gaining over open surgeries.[5] Preoperative chemotherapy to decrease the tumor size to make it resectable and postoperative chemotherapy in patients with poor tumor characteristics and distant metastases has improved patient outcomes.[6]

Case Report

A 32-year-old male, a chronic smoker with no comorbidities, reported to have a dull epigastric abdominal pain that aggravated after meals. His symptoms started 5 months back for which he had undergone an upper gastrointestinal (UGI) endoscopy in a peripheral hospital and diagnosed to have a gastric ulcer on the greater curvature of the stomach [Figure 1a] but was not biopsied and was empirically started on pantoprazole will partial symptom relief. He reported to us with similar symptoms and melena. On clinical examination, he was grossly pale and tachycardic but not in shock. A per-abdominal and systemic review was unremarkable. Per-rectal examination showed melena and fresh blood. Blood investigations showed anemia (Hb: 4.5 g/dl). The rest of the investigations (liver function tests and renal function tests) were normal. A repeat UGI endoscopy done revealed a fleshy tumor on the posterior wall of the stomach [Figure 1b]. No biopsy was taken, fearing a repeat bleed. A contrast-enhanced computerized tomogram (CECT) of the abdomen was done which showed a

How to cite this article: Chawla R, Gowda C, Pai K, Rodrigues G. Initial miss but caught early! Gastric gastrointestinal stromal tumor. Clin Cancer Investig J 2020;9:162-4.

Submitted: 28-Apr-2020
Revised: 20-Jun-2020
Accepted: 15-Jul-2020
Published: 14-Aug-2020

Address for correspondence:
Prof. Gabriel Rodrigues, Department of General Surgery, Kasturba Medical College, Manipal Academy of Higher Education, Manipal - 576 104, Karnataka, India.
E-mail: gabyrodricks@gmail.com

Access this article online

Website: www.ccij-online.org

DOI: 10.4103/ccij.ccij_60_20

Quick Response Code:

solitary lesion arising from the posterior gastric wall that was free from the adjacent organs with no lesions in the liver, intra-abdominal lymph nodes, mesentery, omentum, or peritoneum. There was no free fluid. There was a tumor blush, with no specific vessel feeding the lesion. Once optimized, he was taken up for an exploratory laparotomy. Intraoperatively, a soft, friable, vascular tumor with central umbilication and ulceration measuring around 4 cm × 3 cm was found on the posterior wall of the stomach that bled to touch [Figure 1c]. A wedge resection was executed. The rest of the abdominal cavity was normal. Histopathology revealed a tumor composed of spindle cells with lightly eosinophilic cytoplasm arranged in a syncytial pattern [Figure 2a]. Immunohistochemistry showed CD117 and Ki-67 positivity [Figure 2b and c], confirming the diagnosis of GIST. The patient made an uneventful postoperative recovery and was referred to medical oncology. He was started on imatinib mesylate, which he has been talking for 8 months and is under close follow-up. Repeat UGI endoscopy and a CECT abdomen at 6 months have been normal.

Discussion

GISTs can be great mimickers of various conditions ranging from benign to malignant and can cause diagnostic dilemmas! They account for <1% of GI tumors, which are soft tissue sarcomas that can occur in any part of the digestive system, the most common sites being the stomach and small intestine.[1] Extra-GI GISTs are also known to occur. They can attain any sizes and accordingly may be palpable and can be mistaken for carcinoma stomach which requires more aggressive therapy. No hematological test can specifically confirm or rule out the presence of a GIST. Many a times, they are incidentally picked up while investigating for other conditions. An UGI endoscopy and biopsy will establish the diagnosis.[2] Resection is the definitive modality of treatment, followed by chemotherapy depending on tumor characteristics.[3] Imatinib mesylate is the most specific drug, but when not tolerated or not effective, other tyrosine kinase inhibitors (sunitinib, sorafenib, dasatinib, and nilotinib) are used. Unresectable tumors will require upfront chemotherapy to reduce the tumor size and make them resectable.[4]

Small GISTs might be asymptomatic but, as in our patient, can present with a slow upper GI bleed manifesting as anemia and melena. The deceptive looks of a benign gastric ulcer and deferring a biopsy at the first UGI endoscopy delayed the diagnosis in this patient which is definitely an error. A differential diagnosis of GISTs should be kept in mind in ulcerative and bleeding gastric lesions.

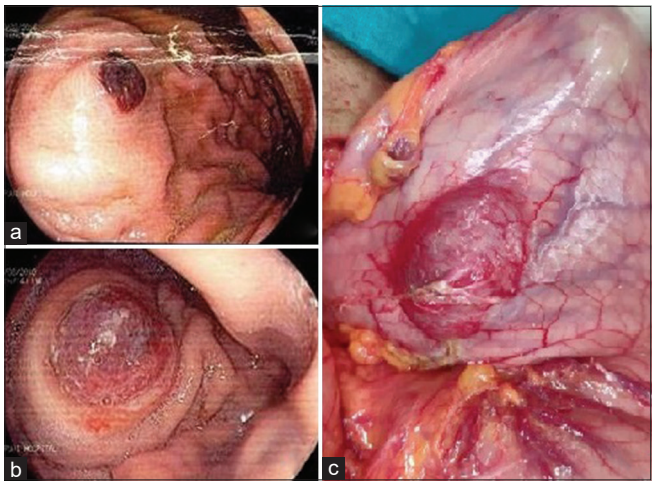

Figure 1: (a) Upper gastrointestinal endoscopy showing an ulcer with clot; (b) upper gastrointestinal endoscopy showing a fleshy tumor; (c) intraoperative picture showing posterior gastric wall tumor

Conclusions

Gastric GISTs, though rare to occur, can have varied presentations that lead to a diagnostic dilemma and are commonly mistaken for a carcinoma. They can grow to big dimensions and are usually amenable for resection. Preoperative chemotherapy does help in downstaging these tumors. Recurrences are known to occur in few patients.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patients understand that their name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

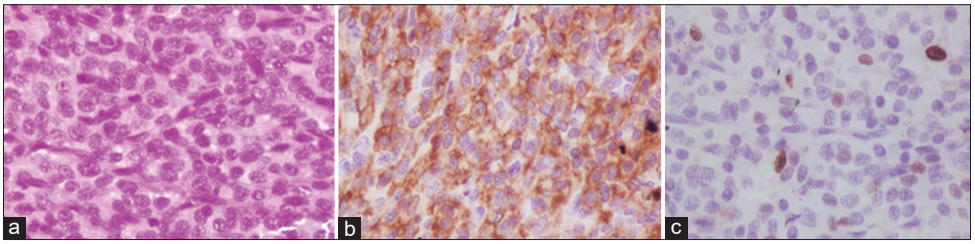

Figure 2: (a) Photomicrograph showing a fleshy tumor composed of spindle cells with eosinophilic cytoplasm arranged in a syncytial pattern; (b and c) immunohistochemistry showing CD117 and Ki-67 positivity

Conflicts of interest

There are no conflicts of interest.

References

1. Akahoshi K, Oya M, Koga T, Shiratsuchi Y. Current clinical management of gastrointestinal stromal tumor. World J Gastroenterol 2018;24:2806-17.
2. Theiss L, Contreras CM. Gastrointestinal stromal tumors of the stomach and esophagus. Surg Clin North Am 2019;99:543-53.
3. Kang HC, Menias CO, Gaballah AH, Shroff S, Taggart MW, Garg N, *et al*. Beyond the GIST: Mesenchymal tumors of the stomach. Radiographics 2013;33:1673-90.
4. Scola D, Bahoura L, Copelan A, Shirkhoda A, Sokhandon F. Getting the GIST: A pictorial review of the various patterns of presentation of gastrointestinal stromal tumors on imaging. Abdom Radiol (NY) 2017;42:1350-64.
5. Maker AV. Tailoring GIST therapy–biology is still king. JAMA Surg 2015;150:306-7.
6. Brown JB, Pai RK, Burgess MA, Chennat J, Zureikat AH. Pathologic complete response in a large gastric GIST: Using molecular markers to achieve maximal response to neoadjuvant imatinib. J Natl Compr Canc Netw 2018;16:1424-8.