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Gastroduodenal Intussusception Due to Gastric GIST Presenting with Melena

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Abstract

Intussusception rarely occurs among adult patients; however, gastroduodenal intussusception is the most infrequent form of intussusception in adults. Almost all these patients present with abdominal pain and vomiting with or without associated gastrointestinal bleed. But none of the patients reported in the literature have presented with gastrointestinal bleed alone. We report a case of gastroduodenal intussusception who presented with melena alone without abdominal pain and vomiting.

Keywords
- gastroduodenal intussusception
- gastrointestinal stromal tumor
- melena
- intussusception

Introduction

Intussusception rarely occurs among adult patients; however, gastroduodenal intussusception is the most infrequent form of intussusception in adults. Almost all these patients present with abdominal pain and vomiting with or without associated gastrointestinal bleed. But none of the patients reported in the literature have presented with gastrointestinal bleed alone. We report a case of gastroduodenal intussusception who presented with melena alone without abdominal pain and vomiting.

Case Report

A 47-year-old male presented with a history of melena, fatigue, and dyspnea on exertion for the last 5 days. There was no history of abdominal pain, weight loss, loss of appetite, nausea, vomiting, or ingestion of any nonsteroidal anti-inflammatory drugs in the recent past. Clinical examination revealed significant pallor. His hemoglobin was 3 g%. His upper gastrointestinal (UGI) endoscopy revealed invagination of the gastric body into the antrum, with no luminal opening seen (►**Fig. 1**). There were no perilesional or regional lymph nodes. A contrast-enhanced computerized tomography (CECT) of the abdomen revealed a large enhancing mass dragging the entire stomach up to the second part of the duodenum (►**Fig. 2**). After stabilization patient underwent laparoscopic reduction in intussusception followed by intraoperative diagnostic UGI endoscopy, which revealed a large mass on the anterior wall of the stomach in the body area with ulcerations over its tip (►**Fig. 3**). Following endoscopic diagnosis, a partial gastrectomy was done in the same sitting (►**Fig. 4**). There were no perilesional or regional lymph nodes. Postoperative recovery was uneventful and histopathological examination confirmed the mass as gastrointestinal stromal tumor (GIST) with all margins free of tumor cells (►**Fig. 5**).

Discussion and Review of Literature

GISTs account for less than 3% of all gastrointestinal tract tumors and 5.7% of all sarcomas. The majority of these tumors are gastric in origin.[1] Patients commonly present with abdominal pain, vomiting, and gastrointestinal

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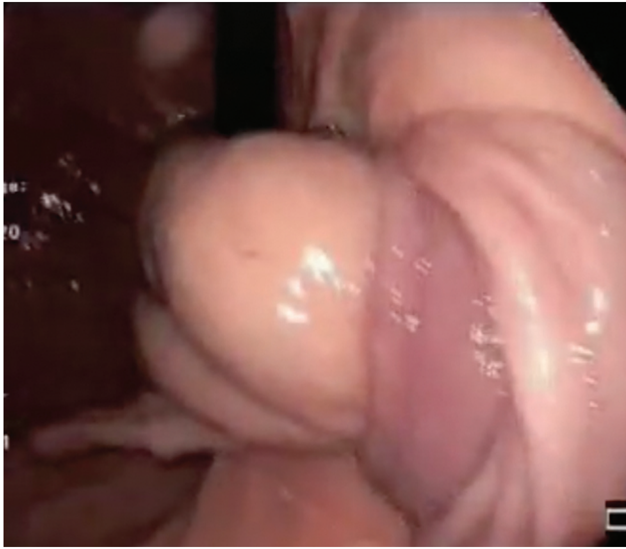

Fig. 1 Upper gastrointestinal UGI endoscopy showing invagination of gastric body into antrum.

bleeding in some cases. In all, 10 to 30% of patients present with symptoms of gastrointestinal obstruction. Intussusception of the stomach due to GIST is an extremely rare condition with approximately 18 case reports in world literature, summarized in ►**Table 1**. In all these 18 cases, GIST was the leading point for gastroduodenal intussusception.[2] Classic triad of cramping abdominal pain, bloody diarrhea, and a palpable mass due to intussusception is rare in adults. Of these eighteen cases, nine patients presented with significant epigastric pain and vomiting, four presented with epigastric pain alone, and two presented with vomiting alone, while a classic triad of pain, vomiting, and melena was reported in only three cases.[3] In one case, patient presented with pain in the abdomen and melena, and in another case, presentation was vomiting with melena. Overall, five cases had presented with melena, but all these cases had associated pain or vomiting, while the present case presented with melena alone without any pain or vomiting, which is a highly unusual presentation. There were no symptoms of pain or vomiting, which are

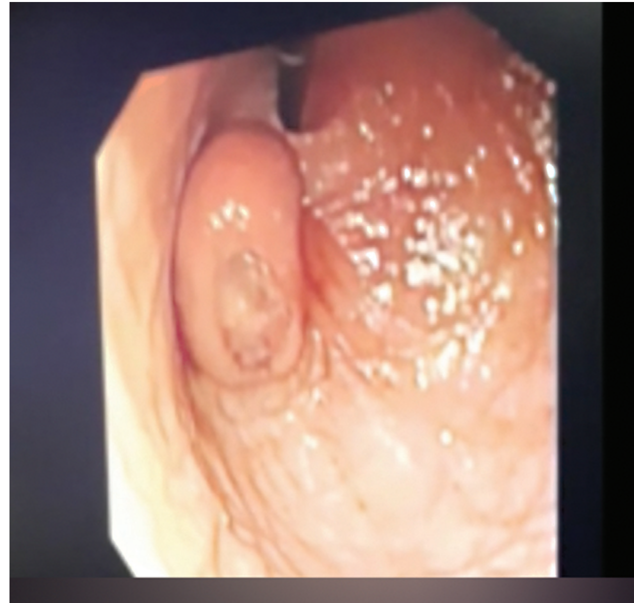

Fig. 3 Upper gastrointestinal endoscopy after reducing the intussusception showing mass on the anterior wall of stomach with ulceration over tip.

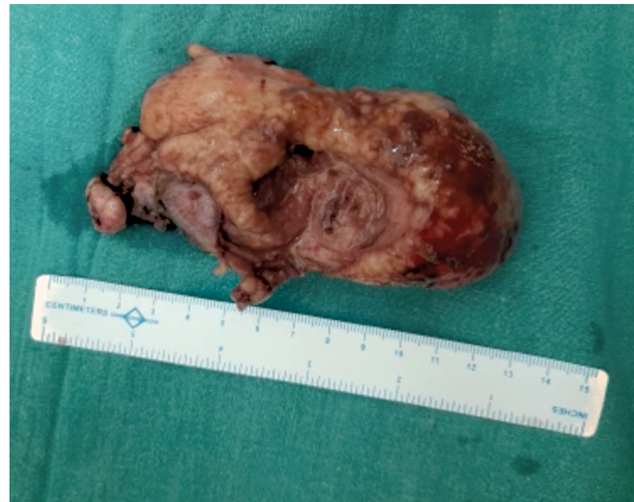

Fig. 4 Partial gastrectomy specimen.

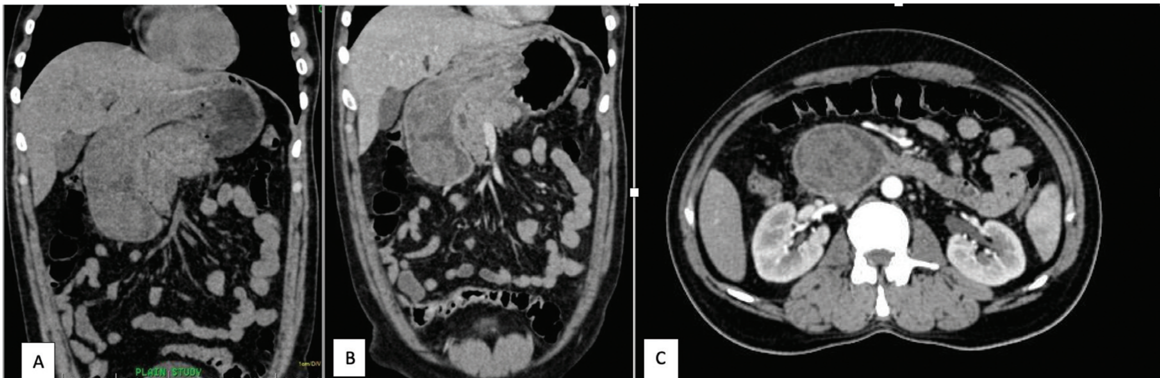

Fig. 2 (A–C) Plain and contrast computed tomography scan showing a large polypoidal enhancing mass from body of stomach dragging the stomach into the duodenum.

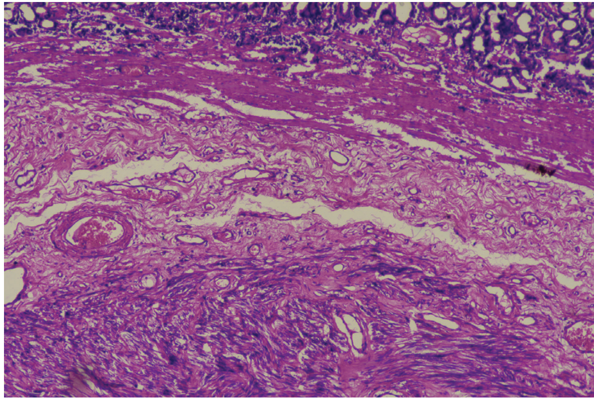

Fig. 5 Microscopic image of the excised mass gastrointestinal stromal tumor.

often seen due to gastric outlet obstruction because of intussusception. All these cases were dealt with either open or laparoscopic surgery where intussusception was relieved, followed by excision of the mass. GIST was recently excised using the endoscopic submucosal dissection technique in two cases.[4], This is probably the first case from India of GIST presenting with melena alone despite having gastroduodenal intussusception. CECT is the most sensitive radiologic modality to confirm intussusception with a characteristic "target" sign when it is perpendicular to the long axis or a "sausage" sign when it is parallel to the long axis. Intussusception in adults needs surgical resection, which is a definitive treatment, especially in low-risk GIST. Except for few cases in recent past, where GIST was excised using endoscopic submucosal dissection, all other

Table 1 Summary of 18 cases of gastroduodenal intussusception reported in world literature

Case no.	Age (year)	Sex	Location	Size (cm)	Presentation	Treatment given	Outcome	Reference
1	85	F	Fundus	6 × 5	Symptoms of acute pancreatitis with weight loss for 6 months	Subtotal gastrectomy	Recovered	Yildiz et al Gastric Cancer. 2016;
2	52	F	Fundus	5 × 5	Epigastric pain and vomiting for 1 day	Lap wedge resection	Recovered completely	Rittenhouse et al Laparosc Endosc Percutan Tech 2013
3	59	F	Anterior wall of stomach	6	Intermittent epigastric pain with vomiting for 3 weeks	Partial gastrectomy	Recovered	Crowther et al Br J Radiol. 2002
4	74	M	Posterior wall	No data	Intermittent vomiting for 3 weeks	Partial gastrectomy	Uneventful recovery	M S PBet al J Clin Diagn Res 2015
5	34	F	Posterior wall of fundus	6.5 × 4.4 × 3.8	Epigastric pain	Lap wedge resection	Uneventful recovery	Chan et al Surg Laparosc Endosc Percutan Tech. 2009
6	62	F	Posterior wall of distal body	5.2 × 3.5 × 3.2	Epigastric pain with melena for 3 days	Billroth's II partial gastrectomy	On imatinib mesylate 400 mg daily (Gleevec, Novartis, United States) East Hanover (NJ) Symptom free	Basir et al Turk J Gastroenterol. 2012
7	84	M	Antrum	4 × 3 × 3	Intermittent abdominal pain, vomiting, weight loss, and melena for 6 weeks	Lap Billroth's II partial gastrectomy	Recovered	Adjepong et al Surg Laparosc Endosc Percutan Tech. 2006
8	78	F	Antrum	4.4 × 3.3 × 3.4	Epigastric pain and vomiting for 1 week	Lap wedge resection	Uneventful recovery	Wilson et al BMJ Case Rep 2012
9	95	F	Posterior wall of distal body	4.2 × 3.9	Vomiting, loss of appetite, and melena for 1 week	Endoscopic submucosal dissection	No recurrence Pt died of old age 55 months later	Yamauchi et al Intern Med. 2017

Table 1 (*Continued*)

Case no.	Age (year)	Sex	Location	Size (cm)	Presentation	Treatment given	Outcome	Reference
10	59	F	Anterior wall	$7 \times 6 \times 5$	Intermittent vomiting for 5 months	Partial gastrectomy	Complete recovery	Gyedu et al Acta Chir Belg. 2011
11	29	M	Antrum	6×6	Intermittent epigastric pain, vomiting and melena for 5 months	Billroth's I partial gastrectomy	Complete recovery	Siam et al Malays J Med Sci. 2008
12	69	M	Posterior wall of antrum	4.5×4	Acute abdominal pain with vomiting for 6 hours	Laparoscopy and wedge resection	Complete recovery	Zhou et al Z Gastroenterol 2018
13	65	F	Anterior wall of antrum	$6 \times 6 \times 4$	Epigastric pain and intermittent postprandial vomiting for 6 months	Wedge resection	Recurrence free for 1 year	Jameel et al J Clin Diagn Res. 2017
14	34	F	Fundus	5×5	Intermittent epigastric pain	Partial gastrectomy	Recovered	Shum et al Abdom Imaging. 2007
15	85	F	Fundus	2.5×2.5	Epigastric pain and melena for 1 day, postprandial vomiting for 14 days	Wedge resection	Recovered with no symptoms on follow-up for 2 years	Ssentongo et al Case Rep Surg 2018;
16	90	F	Fundus	$5 \times 4.5 \times 4$	Vomiting, loss of appetite	Wedge resection	Recovered with no complication	Komatsubara et al Int J Surg Open. 2016
17	42	F	Anterior wall of antrum	$8 \times 7 \times 4$	Abdominal pain for 6 months	Wedge resection	Successful with no complication	De U et al Clin Case Rep. 2018;
18	84	M	Lesser curvature	5.9 cm	Postprandial fullness, nausea and occasional vomiting for 1 month	Endoscopic submucosal dissection	Successful with no recurrence	Yi-Lun Hsieh et al World J Clin Cases 2021

patients reported in the literature were treated surgically. In the present case also, intussusception was reduced by laparoscopy followed by its excision en bloc, which was curative.

Conclusion

Though rare, GIST can present with gastroduodenal intussusception and is best diagnosed by CECT abdomen. This case further highlights that some time despite intussusception patient may not have symptoms or signs of obstruction.

Conflict of Interest
None declared.

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