Clinics in Surgery

Case Report
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Gastroduodenal Intussusception with Fundal Tumor as a Leading Point

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Case Report

A 79-year-old lady was transferred from a public district hospital with melena and severe symptomatic anemia for emergent endoscopy. The patient felt unwell following food consumption and started vomiting, a week prior arrival in our institute. Following further episodes of vomiting, she was reported to have coffee ground vomitus as observed by family member. At this time, she was feeling dizzy and fainted, hence she did not see the contents of her vomitus. She was found to have melena and HB 4.0 at the district hospital where the initial resuscitation took place before further referral. She did not have history of dyspepsia or any gastrointestinal symptoms prior to this episode, except for some weight loss, which she attributed to old age. There was no history of alcohol intake, smoking or use of nonsteroidal anti-inflammatory drugs. She had received 4 units packed red cells by the time she reached our institute with minimal improvement on anemia symptoms.

She has a background history of hypertension for which she was on Hydrochlorothiazide (HCT) 12.5 mg and Nifedipine XL 30 mg once and day respectively.

On Examination

She was in no distress and looked well nourished. She had severe pallor but no cervical nodes. Changes consistent with stigmata of arthritis were noted in her distal phalanges. Her pulse was 87, with systolic blood pressure of 137. Respiratory assessment was unremarkable.

There was no added breath or heart sounds on auscultation. Her abdomen was soft and non-tender. No palpable masses and no obvious herniation noted. There was no pedal edema.

Her blood tests revealed: HB 4.0 g/dL; Platelets 277 × 10^3/μL; O positive; INR 0.99; Urea 4.4 mmol/L; Creatinine 50 μmol/L. Her liver function tests were normal with an albumin of 31.4 g/L.

She was transfused 2 more units overnight in preparation of her endoscopic evaluation. Gastroscopy revealed normal esophageal mucosa and vascular pattern. In the stomach however, the fundus was telescoping into the pylorus causing gastric outlet obstruction. Attempted reduction using jumbo forceps to pull out the fundus were made (Figure 1). After 3 attempts, reduction of the intussusception was successful, revealing a Gastrointestinal Stromal Tumor (GIST) -like lesion from the fundus with ulceration but not actively bleeding (Figure 2). (Video) (https://youtu.be/DllyiuMoCgk).

CT abdomen was subsequently done as part of planning for resection, and it showed; "endophytic hypodense enhancing ulcero-proliferative mass of 3.0 cm × 3.4 cm × 4.0 cm which is seen protruding into the gastric lumen and is attached to the greater curvature of stomach in the fundal region. No perigastric infiltration or serosal breach is seen".

A combined endoscopic and laparoscopic procedure was done where a gastroscopy was used to visualize the tumour while simultaneously bringing the linear cutter under vision endoscopi and laparoscopioc vision. The GIST was successfully excised. The patient recovered well and was transferred back to referring unit on post operative day 3, where she was finally discharged following uneventful recovery.

Histology results showed a unifocal gastrointestinal stromal tumor, spindle cell type with tumor size of 55 mm, 3 mitoses per 5 mm^2, low grade with necrosis. All margins were negative: proximal 55 mm, Distal 10 mm and omental 2 mm close to GIST. Figure 3 shows the lesion that was subsequently resected.

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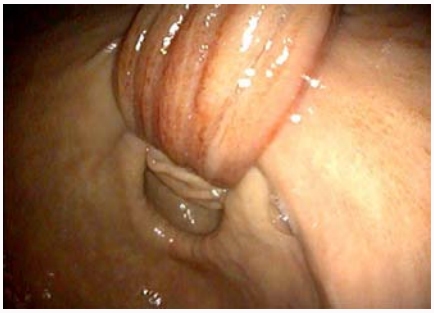

Figure 1: The fundus is telescoping through the pylorus, distorting the stomach anatomy.

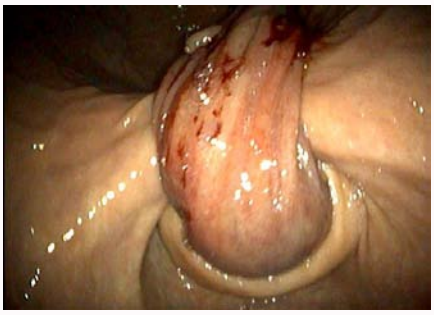

Figure 2: The leading point is reducing, revealing a tumor.

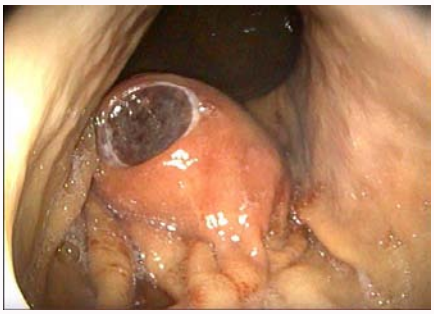

Figure 3: The tumor in the fundus is umbilicated, characteristic of a gastrointestinal stromal tumor.

Immunohistochemical studies were diffusely positive for KIT (CD117) and DOG1 (ANO1) but weakly positive for SMA. This was categorized as pT3 low risk GIST.

Discussion and Conclusion

GIST often present with non-specific symptom or atypical symptoms depending on their size and site within the gastrointestinal tract. Since the most common site is the stomach, accounting for 60% to 70% of GIST cases [1], it is therefore not surprising that they commonly present with gastrointestinal bleeding [2,3]. The bleeding probably resulted from tumor erosion into the mucosa with resultant ulceration as seen on endoscopy and necrosis as reported in the histology specimen. These findings are similar to the reasons put forward in a publication by Kang et al. as the cause of GIST bleed [4]. They however rarely present with gastric outlet obstruction secondary to intussusception. Most of the tumors presenting with intussusception are located in the stomach, followed by those in the jejunum. These are mostly reported as case reports [5]. This case is interesting because we were able to easily reduce the intussusception endoscopically with good restoration of anatomy. The pedunculated nature resulting from the suction of duodenal peristalsis led to temptation to excise the lesion endoscopically using endoloop (which we did not have) and endoclips. Surgery is the gold standard treatment of choice in GIST tumors presenting in emergency as in our case [3]. Minimally invasive surgery, if the tumor is in a favorable position and favorable size, is associated with less morbidity, postoperative pain and quick recovery with good oncologic outcome, which was essential for our frail patient [6,7].

In conclusion, GIST is uncommon and often presents with upper Gastrointestinal (GI) bleeding. It can also present with obstruction and sometimes as a result of intussusception. An acute care surgeon should have a low threshold to suspect GIST in a patient presenting with gastric outlet obstruction and melena with severe anemia among other possible causes of GI bleed.

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