

# Jejunal GIST presenting as occult upper gastrointestinal haemorrhage: A case report

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## SUMMARY

**Occurrence of gastrointestinal stromal tumour (GIST) of the small bowel is uncommon. Herein, we report on the acute and surgical management of a middle-aged male who presented with maelenic stool and anaemic symptoms due to bleeding small bowel jejunal GIST.**

## INTRODUCTION

Gastrointestinal stromal tumour (GIST) of the small bowel is an uncommon mesenchymal tumour presenting in the gastrointestinal tract with an incidence of 1 per 100,000 worldwide.<sup>1</sup> Presentation of bleeding small bowel GIST may mimic upper gastrointestinal haemorrhage with similar presentations of coffee ground vomitus, maelena, and anaemia.<sup>2</sup> Heightened awareness of small bowel GIST is needed if the initial investigations of upper and lower endoscopy return normal findings. Herein, we report on a case of a middle-aged gentleman that was treated for acute gastrointestinal haemorrhage due to small bowel jejunal GIST.

## CASE REPORT

A 43-years-old male presented to the emergency department with maelenic stools and symptomatic anaemia for 1 week. He was a fit man with no prior hospital admissions and no family history of malignancies. There were no prior constitutional symptoms of malignancy. On admission, his vital monitoring was within normal limits. Apart from pallor, physical examination was unremarkable. There were no palpable masses on the abdominal examination. Blood investigations revealed severe anaemia with haemoglobin level of 4.6 g/dl that required blood transfusions. An emergency upper endoscopy showed normal gastric and duodenal mucosa with no evidence of recent bleed. This was followed by a colonoscopy examination up till the terminal ileus only showed blood clots without any evident source of bleeding. Due to the diagnostic dilemma, an urgent contrast-enhanced computed tomography (CT) of the abdomen was performed which revealed a tumour arising from the small bowel that measures 5.2 x 5.2 x 4.5 cm (Figure 1). The patient underwent an explorative laparotomy and intraoperative findings were of a mobile, vascular, exophytic mass arising from the anti-mesenteric side of the jejunum which is approximately 120 cm from the duodenal-jejunal junction (Figure 2A). En-bloc resection with wide margins taking together the involved small bowel mesentery with end-to-end primary anastomosis was performed (Figure 2B). Cut section

of the tumour post-operatively revealed a solid mass (Figure 2C) with an ulcerative pit (Figure 2D). Post-operative recovery was uneventful and the patient was discharged on post-operative day 2. Final histopathological results were consistent with GIST which tested positive for CD-117 (Figure 3A), DOG-1 (Figure 3B), and CD-34 immunostaining. Due to its size of more than 5 cm with average mitotic count of 2/50 per high power field, based on the fifth WHO edition 2019 (Miettinen's and Lasota criteria) which gives a moderate risk (Category 3a) of disease recurrence and progression. The patient remained in good health and well on subsequent follow-up 6 months post-operatively. Despite being categorized as intermediate risk GIST, the patient has a moderate prognosis (favoring lower recurrence and disease progression) due to clear surgical margins (RO resection) and avoidance of tumour spillage intra-operatively.

## DISCUSSION

Alimentary GIST was first published by Mazur and Clark in 1983,<sup>3</sup> with an annual incidence of 4.3 to 6.8 cases per 1 million population. Gastric GIST was the most common location, followed by small bowel with 31.8%. Risk of recurrence depends on the grading of the tumour size, mitotic count, and tumour site. There had been wide variations of recurrence risk in different population for GIST with intermediate risk which ranges from 5 to 20%.<sup>1</sup> Although there were no identifiable associated risk factors albeit the majority of cases were mainly incidental findings due to unspecified symptoms. However, patients with underlying GIST, often presented with gastrointestinal bleeding, abdominal mass, and pain.<sup>2</sup>

At present, surgical resection and molecular-targeted drugs remain the cornerstone of management. Complete resection with wide negative resection margins via laparoscopic or open surgery yields good prognosis. Laparoscopic resections have better outcomes in regards to tumour spillage rate, shorter operative time, shorter postoperative recovery time and less post-operative pain in tumours smaller than 5 cm.<sup>3</sup> Alternatively, adjuvant therapy may be offered for inoperable alimentary GIST's. Imatinib mesylate, the first line of adjuvant therapy, is a small molecule inhibitor of tyrosine kinase (TKI), which can specifically inhibit KIT, PDGFRA, and BCL-al, reducing the relapse rate, improving overall survival rate. Although primary resection is the preferred choice of treatment in bleeding small bowel GIST, there were other novel methods to temporarily arrest bleeding. A report on similar bleeding jejunal GIST by Shi et

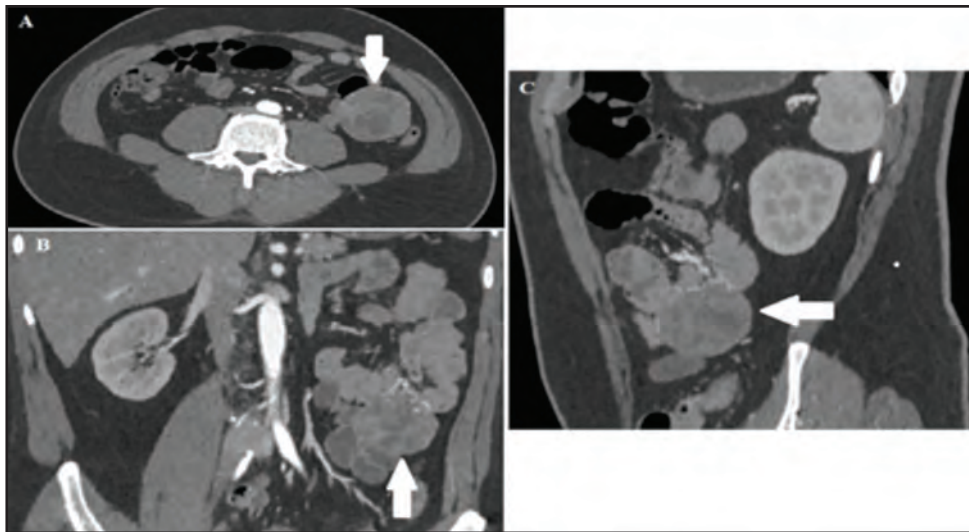


Fig. 1: CT abdomen showing axial (A), Coronal (B) and Sagittal (C) of tumour arising from small bowel (white arrow).

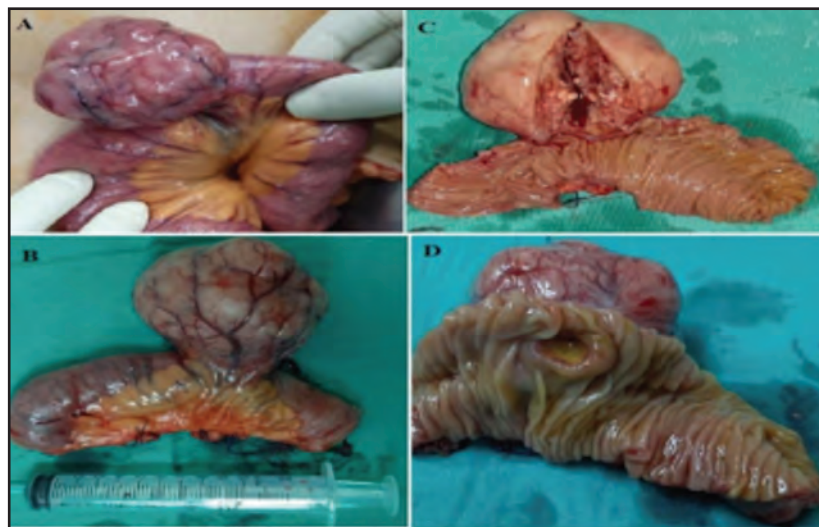


Fig. 2: Showing intraoperative small bowel tumour arising from antimesenteric side (A), enbloc resection with feeding vessels from mesentery (B), bisected tumour showing solid component (C) and central ulceration over small bowel mucosa (D).

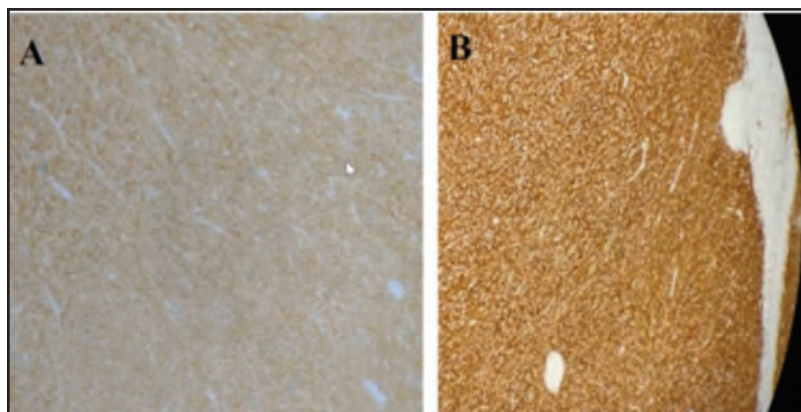


Fig. 3: Positive immunostaining for (A) CD117 stain (B) DOG 1.

al revealed injection of polidocanol to temporarily arrest bleeding via a colonoscope to gain access to proximal jejunum.<sup>4</sup> Bleeding small bowel GIST is an uncommon cause

of gastrointestinal haemorrhage. High index of suspicion and imaging modalities is required in the majority of cases to clinch the diagnosis.<sup>5</sup>

According to the National Comprehensive Cancer Network (NCCN) guidelines, clinic review for history and physical examination coupled with abdominal and pelvic CT scan every 6 months for the first 5 years for patients with intermediate risk that had a complete resection.<sup>6</sup> Incidence of GIST reported worldwide showed a wide variation within 19–22 cases per million (Norway, China Hong Kong, Shanghai, and Korea) to 4.3–6.8 cases of GIST per million population (Shangxi province China, Slovakia, North America, and USA). Based on systematic review by Soreide et al of 29 studies from 19 countries, the commonly reported incidence was from 10 to 15 cases of GIST per million population.<sup>1</sup> Comparing to statistics closer to Malaysian population, Chi-yuen et al reported an incidence of approximately 13.8 million cases per million Taiwanese population.<sup>7</sup> To our knowledge, local publication on GIST incidence in Malaysia is limited. Kandasami et al. published a retrospective analysis from a single institution in Malaysia and identified 29 GIST cases which were treated over a period of 10 years (2002–2011). The study reported that males and the local Chinese ethnicity were identified to have higher percentages of GIST. Majority of the cases were categorized as intermediate risk followed by high and low-risk GIST.<sup>8</sup>

#### CONCLUSION

Bleeding small bowel GIST is an uncommon condition. A high degree of suspicion is required for its diagnosis. With early surgery and oncologic treatment, prognosis is good.

#### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in the preparation of this article.

#### INFORMED CONSENT

Written informed consent was obtained from the patient for 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 on request. This report did not require approval from an institutional ethics review board as patient anonymity was kept. The authors conformed to the provisions of the Declaration of Helsinki in 1995 (as revised in Brazil in 2013).

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