



## Hematochezia Due to Rare Small Bowel Lesions

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### Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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### Case Report

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## ABSTRACT

**Aims:** Small bowel lesions are important differentials in patients presenting with hematochezia and these two cases highlight the clinical challenges in diagnosis and management of such cases.

**Presentation of Cases:** Both of the patients present with fresh per rectal bleeding with variable degrees of hemorrhagic shock with no or minimal preceding symptoms like abdominal pain. Imaging was beneficial in accurately localizing the lesion in 1st patient and histologically gastrointestinal stromal tumour [GIST] was diagnosed. 2nd case illustrates the limitations of conventional endoscopy and unavoidable delays in decision making that can happen with small bowel lesions in a patient eventually found to have rare jejunal diverticula.

**Conclusions:** Small bowel lesions are rare and carry significant morbidity and mortality. They are difficult to diagnose and even with advance imaging and endoscopic facilities some cases can still be undiagnosed.

**Keywords:** Hematochezia; gastrointestinal stromal tumour; Jejunal diverticula.

## ABBREVIATIONS

KIT : Tyrosine Kinase Receptor  
PDGFA : Platelet Derived Growth Factor Receptor Alpha

## 1. INTRODUCTION

Hematochezia carries high morbidity and mortality, often difficult to localize the site and cause of it. Rarely the small bowel is the site

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where vascular lesions, tumours and inflammatory bowel disease are the common causes. Small bowel gastrointestinal stromal tumour and jejunal diverticula are found to be the etiology in two cases presented here.

## 2. CASE 1

49 year female patient admitted with fresh rectal bleeding since the morning. She had noted passage of black colour stools over the past three days. There was no associated abdominal pain, tenesmus or anal lumps. She was pale, pulse rate was 106bpm and blood pressure was 100/70mmHg. Proctoscopy revealed altered blood and fresh blood clots. The patient was resuscitated with blood and blood product transfusion and hemodynamic parameters remained stable afterwards. She underwent urgent CT angiogram which revealed 3.5cm x 3.1cm highly contrast enhancing lesion in the ileal mesentery [Fig 1]. A proximal ileal tumour was identified [Fig 2] in the laparotomy and segmental small bowel resection was carried out. The patient had an uneventful postoperative recovery. Histology revealed CD 117 positive GIST of 3.4cm diameter and mitotic index was <5. The tumour was categorized to be “low risk” in the modified Fletcher classification; she was provided with adjuvant tyrosine kinase inhibitor [imatinib] treatment following oncology consultation.

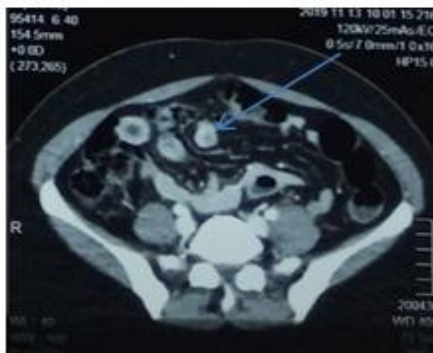


Fig. 1. The enhancing lesion related to small bowel mesentery – Arrow

### 2.1 Case 2

65y old female patient with diabetes and chronic kidney disease presented with acute hematochezia of 4 hours duration and a preceding history of upper abdominal pain over past 2 days which was treated as peptic ulcer disease. She was pale and had a low volume

pulse of 120bpm, blood pressure of 80/50mmHg. Abdominal signs were not elicited reliably since the patient was restless and confused [GCS 13/15]. O negative blood was used for initial resuscitation and subsequently cross match blood was given according to the massive transfusion protocol. Gastroduodenoscopy was normal and colonoscopy was failed due to significant bleeding. The patient deteriorated again after the initial response to resuscitation. Angiography was not available and she underwent emergency laparotomy with intension of total colectomy. However, 15cm segment of jejunum with multiple diverticula was identified with no apparent blood proximal to the lesion [Fig 2; these were later confirmed as jejunal pseudo diverticula histologically]. There were no colonic diverticula. Segmental small bowel resection was performed and there was no bleeding after the surgery. However on the 2nd day of surgery patient succumbed due to multi organ failure as a result of cumulative effects of surgery and massive blood transfusion.



Fig. 2. Cut open specimen of small bowel with the tumour



Fig. 3. Resected segment of jejunum with multiple diverticula in the mesenteric border [Arrows]

## 3. DISCUSSION

Gastro duodenal, small bowel or colonic causes can cause hematochezia. Small bowel bleeding

is defined as bleeding distal to ampulla of Vater and proximal to the ileocaecal valve[1]. It accounts for 5 -10% of gastrointestinal bleeding events where 2/3 present with melena and 1/3 present with hematochezia [1, 2, 3]. Angiodysplasia is identified as the commonest cause of small bowel bleeding particularly among the old patients, while the tumours and Inflammatory bowel disease are the next common etiologies [3,4]. The Meckel's diverticulum, aorto-enteric fistula, Jejuno-ileal diverticula and vascular lesions like Telangiectasias, Dieulafoy's lesion and arteriovenous malformation are much rarer entities [3,4].

As noted in 1st case imaging can be beneficial in many cases where CT angiography and red cell scintigraphy are the main modalities used [1]. Video capsular endoscopy [VCE] has an important role in small bowel bleeding. VCE performed within two weeks is noted to have best chances of identifying a lesion and rapidity of bleeding, multiple episodes of bleeding, bleeding for more than 6months and Hb<10g/dl are other predictors of successful diagnosis [2]. Repeating VCE or balloon enteroscopy is the next resort when a site of bleeding is not identified [2, 4].

Tumour is the second most common cause of small bowel bleeding, accounting for 10% of cases [4]. Benign tumour is 5 times more likely to present with bleeding than a malignant tumour[3, 4]. Gastrointestinal stromal tumour has an incidence of 1 case per 100000 per year [5]. These are spindle type tumours developing from interstitial cells of Cajal following a mutation in the tyrosine kinase receptor proto oncogene or platelet derived growth factor receptor alpha proto oncogene or both of them [5]. Small bowel is the 2nd commonest site where 1/3 of the GIST are identified [4, 6]. Similar to case 1, overt GI bleeding in the form of hematochezia or melena is a common presentation of small bowel GIST, noted up to half of the cases [7, 8]. Nonspecific abdominal pain, bowel obstruction due to intussusception, symptomatic liver metastasis and abdominal mass are other presentations [7, 8]. Immunohistochemistry play a key role in diagnosis of GIST. KIT [CD 117] positivity which is noted in 95% of cases or positivity for CD 34, DOG1 is important for the confirmation of diagnosis [5, 6, 7]. Negative immune studies need genetic assay to identify the key genetic mutation in the KIT and PDGFRA 5. This patient had CD 117 [KIT] positive tumour. R0 resection of tumour is the main curative strategy [5, 6].

Lymph node metastasis is rare; therefore, nodal dissection is not recommended unless suspicious nodes are present [6]. Adjuvant therapy with tyrosine kinase inhibitors [Imatinib] is recommended based on risk stratification [size of the tumour, site of the tumour, mitotic index and tumour perforation] and they can be very low, low risk, intermediate risk and high risk of malignant potential [5,6]. 1st patient was considered to be in the low risk category since the tumour was 3.4cm [2 -5cm] and mitotic count was less than 5%. Considering site and age of the patient multidisciplinary opinion was to treat with adjuvant imatinib for 3y.

Diverticula in the small bowel are a rare cause of hematochezia [3, 4, 9, 10, 11]. Meckel diverticulum is reported as the commonest small bowel diverticulum and other congenital diverticula are uncommon [9]. Other diverticula of jejunum and ileum are acquired pseudo diverticula with no muscularis propria and located in the mesenteric border, which is the weakest site due to entering of blood vessels [11]. However, in contrast to colonic diverticula, small bowel diverticula are rare and less percentage of patients develop complications [9, 10, 11]. Mal-absorption due to bacterial overgrowth, diverticulitis, perforation and bleeding are the main concerns [9, 10, 11]. Few cases of jejunal diverticula presenting with hematochezia is reported in the literature and accurate pre-operative diagnosis may not be possible always similar to case 2, particularly if the patient is haemodynamically unstable, emergency laparotomy may be the only option [9, 10, 11]. Colon is the common site of bleeding in the elderly and subtotal colectomy is recommended in many guidelines. However, small bowel should be inspected to exclude bleeding due to diverticula as illustrated in this case. Colonic diverticula coexist in 50% of patients with small bowel diverticula and/or continuous small bowel diverticula can complicate intra operative decision making and intra operative endoscopy can help in such circumstances [11].

#### 4. CONCLUSION

Small bowel lesions are rare and difficult to diagnose. They can present with massive lower gastrointestinal bleeding, which carries significant morbidity and mortality, particularly with delay in diagnosis. Advance imaging and endoscopic facilities are needed to diagnose these lesions; however, some cases can still be undiagnosed.

## CONSENT

Informed consent was obtained from the patient to publish clinical details with no personal patient details as a case report.

## ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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