

A SPONTANEOUS INTRAMURAL SMALL BOWEL HAEMATOMA

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Abstract

Spontaneous haemorrhage into small bowel wall leading to obstruction is a rare acute presentation among haemophilic patients. We present a case of a 46 year old male with haemophilia B, admitted to the surgical casualty ward with an acute abdominal pain suspicious of small bowel obstruction which was confirmed on erect abdominal radiograph and abdominal sonography. Contrast enhanced CT [CECT] abdomen revealed a segment of circumferentially thickened small bowel wall suggestive of bowel wall heamatoma. However, mild but appreciable contrast enhancement of the affected bowel wall raised the possibilities of a neoplastic or inflammatory process as differentials. Subsequent surgical intervention with resection of bowel after correction of factor IX and histology revealed intramural heamatoma of small bowel with no evidence of an inflammatory or neoplastic process. We believe that the bowel wall enhancement in CECT could be attributed to the enhancement of intact mucosa and sub mucosa predominating over non enhancing heamatoma which can be considered a diagnostic pitfall.

Keywords: Small bowel, Intramural, Heamatoma, Haemophilia, Spontaneous

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Introduction

Non traumatic spontaneous small bowel hematoma is a rare occurrence^{1,4}. It is more common in patients receiving anticoagulation or with bleeding disorders^{1,3}. Computed tomography (CT) is the imaging technique of choice which shows mural hyper-density in a circumferentially thickened small bowel segment^{1,3,4}. Early recognition of the condition may prevent unnecessary surgery^{1,3,5}.

Case Report

A 46 year old male presented to the casualty surgical ward with abdominal pain and vomiting for 5 days duration. He had no bowel motions for 3 days but flatus was passed. There was no history of fever. He was a diagnosed patient of Haemophilia B. There was no past history of surgery. Initial laboratory investigations revealed WBC count of $20 \times 10^3/\mu\text{l}$ with 85.9% neutrophils, 12.3g/dl haemoglobin, $467 \times 10^3/\mu\text{l}$ platelet count and 1.03 INR. Serum electrolyte counts were normal with K^+ 3.7mmol/L (ref range 3.5-5.1) and Na^+ 140mmol/L (ref range 136-145). Urgent erect X ray abdomen showed multiple air fluid levels (>3, each >3cm) suggesting intestinal obstruction (Figure 1) and the ultrasound scan (USS) of the abdomen showed a long segment of small bowel with absent peristalsis and thickened wall. Abrupt transition was seen from normal bowel to thickened bowel. Bowel wall vascularity was not seen on Doppler USS performed using the high frequency linear transducer (Figure 2). Emergency laparotomy was contemplated on the provisional diagnosis of bowel gangrene but had to be postponed until factor IX was available.

However, subsequent sonography with low frequency curvilinear transducer and



Figure 1: Erect AXR; dilated small bowel with fluid levels

optimized color Doppler parameters showed bowel wall vascularity, thus surgery was delayed until factor IX deficiency was corrected. CECT abdomen was performed to assess the extent of involvement of the bowel and to exclude bowel gangrene. It revealed a long segment of distal jejunum and proximal ileum with thickened enhancing wall. Adjacent mesenteric hyperaemia was observed too. No local or regional lymph adenopathy but there was mild ascites. No intra mural gas was seen in the bowel and the other bowel loops appeared unremarkable (Figures 3 and 4). CT findings of contrast enhancement of the bowel wall and lack of gas in the bowel wall ruled out the possibility of small bowel gangrene. Although in a



Figure 2: US scan; segment of small bowel with wall thickening

patient with a bleeding diathesis, the logical conclusion of small bowel wall thickening is hemorrhage into the bowel wall, presence of mild but appreciable contrast enhancement prompted us to look for an alternative cause since hematoma per se is not expected to show contrast enhancement. Differential diagnosis was given as either neoplastic lesion such as primary small bowel lymphoma or inflammatory bowel pathology involving a long segment of small bowel.

Surgery was performed after correction of factor IX. A long segment (45cm) of hyperaemic non gangrenous bowel was

evident with intramural and mesenteric hematomas (Figure 5). One and a half feet of thickened, condensed small was removed and end to end anastomosis was performed. Histology revealed intact viable mucosa and extensive haemorrhage in the lamina propria and submucosa with small haemorrhages in the mesentery (Figures 6,7,8).

Discussion

Spontaneous intramural small bowel hematoma is a rare occurrence mainly found in over anti-coagulated patients or in patients with bleeding disorders^{1,3} similar to this case. It is most commonly seen in jejunum followed by ileum and duodenum and is only rarely seen in colon^{1,4}. A single lesion is seen more commonly than multiple lesions¹. Sonographic appearance of acute bowel wall hematoma is described as thickened echogenic submucosa¹. However, this is a nonspecific finding which can be found in other conditions such as inflammatory bowel disease. The CECT findings are reported as homogenous symmetrical intramural thickening. Our patient had circumferentially thickened bowel wall on CT in concurrence

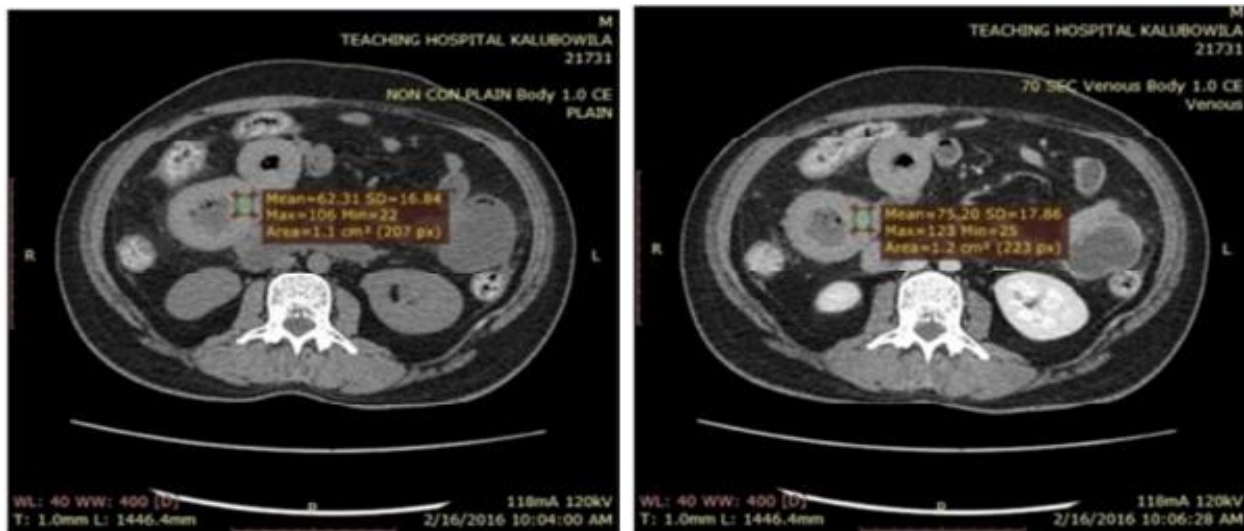


Figure 3: Pre and post contrast axial CT images – segment of small bowel with thickened wall



Figure 4: Coronal CT; segment of small bowel with thickened wall and mesenteric hyperaemia.

with literature. The thickening is further described as non-enhancing hyper-dense material within bowel wall in early stages. The hyper-density is reported to reduce after about 10 days when the hematoma ages and an intramural cystic lesion becomes evident¹. Reduction in attenuation is seen in centripetal fashion as the clot lyses². The characteristic ring sign with a crescent of hyper attenuation may be seen on CT². Inflammatory lesions of the small bowel also can lead to bowel wall thickening with enhancement. Therefore, without clinical history, the CT findings are nonspecific for differentiating from inflammatory causes of bowel wall thickening². Although literature describes non enhancing mural thickening in cases of haemorrhage, in our patient there was enhancement of the thickened segment of bowel. In this case, the enhancement of the bowel walls on CECT deviated the diagnosis from bowel wall hematoma towards inflammatory or neoplastic lesion since

hematoma per se is not expected to show contrast enhancement. Absence of significant drop in Hb level and the neutrophil leukocytosis too supported an inflammatory cause over haemorrhage. Patients with uncomplicated small segment of intramural bowel hematoma can be treated medically avoiding unnecessary surgery^{3,5}. The average length of involved bowel segment which could be managed successfully with medical treatment is given as less than 23cm in the literature^{1,5}. The involved segment in this patient was 45 cm, therefore the index patient is probably a candidate for surgery. Post-surgical period was found to be uneventful.

Take home point

We believe that the mild contrast enhancement seen in the bowel wall during CECT was a result of enhancement of intact viable bowel mucosa predominating over an enhanced hematoma mimicking a neoplastic



Figure 5: Segment of hyperaemic small bowel during surgery

or inflammatory process and should be considered as a pit fall, to be avoided when interpreting CECT images of suspected intramural haemorrhage of bowel.

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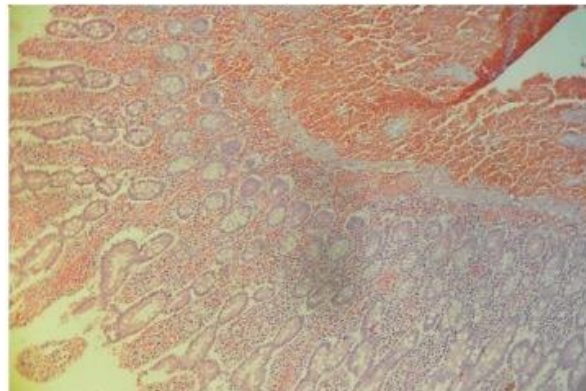


Figure 6: Microscopy; haematoma within submucosa.

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