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A case of spontaneous intramural duodenal hematoma in a young African man: Imaging findings ☆

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ABSTRACT

Intramural duodenal hematoma has been reported as a rare condition first described by McLauchlan in 1838. It is now thought to be an uncommon condition due to the increase in the number of reported cases in the medical literature. It has been reported to usually occur secondary to blunt trauma mainly in young men and children, with 82% of the patients being younger than 30 years. Association between spontaneous intramural duodenal hematoma and coagulopathy, coagulating drugs, endoscopic procedures, acute pancreatitis, and pancreatic malignancy has been made.

We present the case of a 35-year-old African male lumberjack with no known previous history of trauma, risk factors, or associated predisposing condition that presented to our facility with acute abdominal pain and vomiting and diagnosed as spontaneous intramural duodenal haematoma on CT scan and MR imaging with a complete resolution on conservative management.

Introduction

Intramural duodenal hematoma has been reported as a rare condition and was first described by McLauchlan in 1838, during an autopsy [1]. It is now thought to be an uncommon condition due to the increase in the number of reported cases in the medical literature [2]. It has been reported to usually occur secondary to blunt trauma and occurs mainly in young men and children, with 82% of the patients being younger than 30 years [2–6]. Association between spontaneous intramural duodenal hematoma and coagulopathy, coagulating drugs, endoscopic procedures, acute pancreatitis and pancreatic malignancy has been made[3,4]. However, the association between intramural duodenal hematoma and acute pancreatitis is still unclear [3,4].

CASE REPORT

A case of a 35-year-old African male lumberjack who presented with sudden onset of severe abdominal pain of a day's

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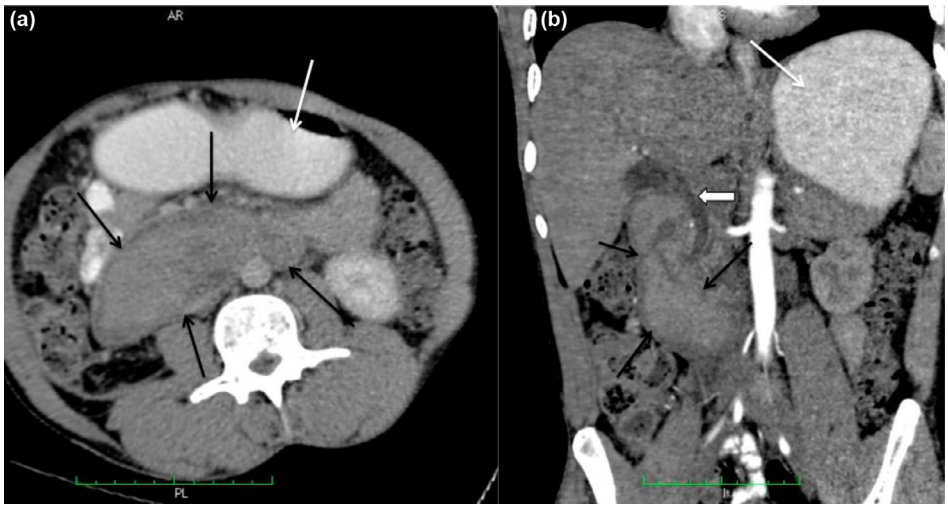

Fig. 1 – (a) Axial and (b) coronal reformatted oral and IV contrast enhanced CT on day of presentation shows 2nd part of duodenum with intramural hyperdensity and enlargement (black arrows). Dilated stomach (white arrow) and prominent common bile duct (solid white arrow) are also seen.

duration, which was later associated with occasional vomiting.

He was referred from a peripheral hospital with a presumptive diagnosis of pancreatic head tumor based on an ultrasound done at the facility.

Not a known smoker or alcoholic. No history of trauma or blunt abdominal injury.

On examination, the patient was anicteric with a palpable mildly tender epigastric mass. Based on these findings and the referring diagnosis (based on ultrasound findings), an impression of an epigastric tumor, with a differential of a pancreatic or gastric tumor was made. The case under discussion was not suspected clinically as this patient's initial abdominal ultrasound misdiagnosed as pancreatic head mass at a peripheral hospital.

A CT Scan of the abdomen was requested for further evaluation (Fig. 1) on presentation which showed a slightly hyperdense nonenhancing intramural duodenal mass affecting the first, second and third parts. This finding was suggestive of an intramural duodenal hematoma. There was an associated severe luminal narrowing and gross distension of the stomach. The prominence of the common bile duct, right and left hepatic ducts was also noted.

MRI was requested to confirm but was done a week after the CT Scan due to patient's financial constraints. MRI findings confirmed the diagnosis and shows a heterogeneously hyperintense intramural duodenal lesion on both T1 and T2 weighted images (Fig. 2).

Patient was managed conservatively on day of admission with nasogastric tube (for gastric decompression, Nil per os, analgesia (IV morphine 5 mg 6 hourly) and IV hydration and discharged home after 8 days when the vomiting and abdominal pains had resolved.

A repeat MRI was done two and half months after the initial MRI and showed resolution of the hematoma (Fig. 3).

DISCUSSION

The duodenum is most common site for intramural hematoma of the gastrointestinal tract and this may be ascribed to the anatomy of the duodenum [9,10].

The diagnosis is often not suspected clinically and is usually only established after abdominal imaging or an exploratory laparotomy is performed.

Intramural duodenal hematoma leads to life-threatening events such as gastrointestinal obstruction, perforation and intussusceptions [8]. The presenting complaints are usually nonspecific but may include abdominal pain, nausea, vomiting and abdominal distension [5,7].They generally may present after an asymptomatic period of several hours to several days and may vary according to the location of the hematoma [7,9]. Intramural hematoma changes the intramural osmotic gradient and this may lead to intraperitoneal hemorrhagic effusion [7].

The pathophysiology in intramural bleeding may be due to the shredding of terminal arteries at the point where they leave the mesentery and penetrate the muscular layer of the bowel wall [7]

The first radiographic preoperative diagnosis of an intramural duodenal hematoma was made in 1948 by Liverud [11].

Management of patients with intramural duodenal hematoma is usually by conservative measures in majority of the cases with treatment like fluid resuscitation, pain control, hemotransfusion and imaging follow-up [7]. Surgical interventions are employed in cases of suspected complications. CT Scan was done as the initial imaging modality of choice in this patient presenting with acute abdomen because of shorter acquisition time for a relatively unstable patient. MRI has superior soft-tissue resolution and also good as diagnosing acute hemorrhage. Hence was done for confirmation.

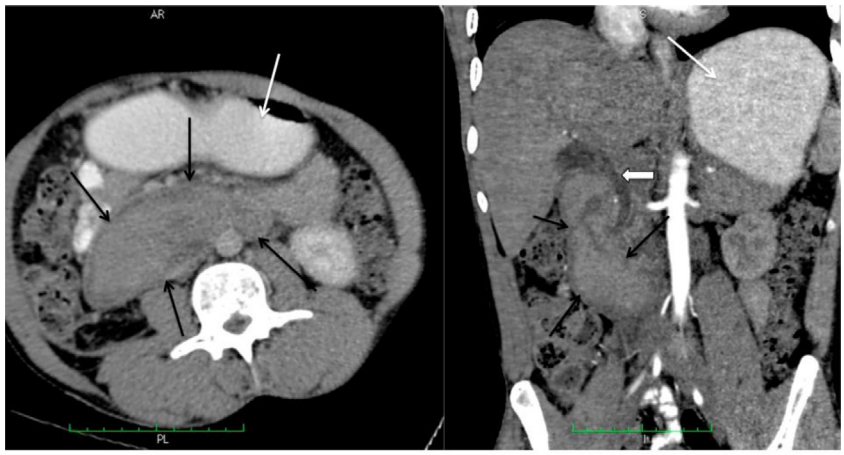

Fig. 2 – (a) Axial T2 ssfp (b) Axial T1W (c) Coronal T1W (d) Coronal T2 ssfp images 14 days after CT scan show duodenal haematoma (black arrows).

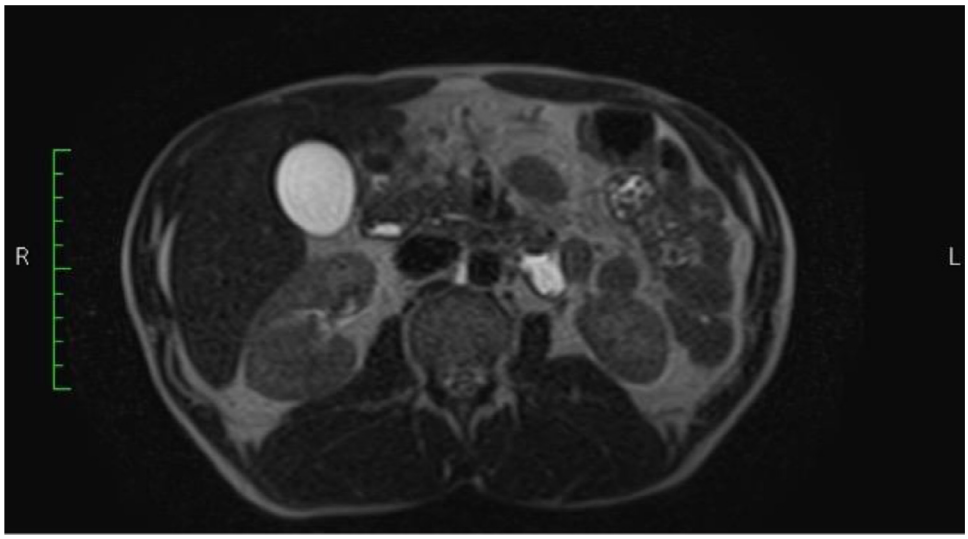

Fig. 3 – Post treatment (10 weeks after presentation) T2W axial MRI shows normal size of duodenum with normal signal indicating resolution of haematoma.

Our case is unique because there was no history of trauma, alcoholism or coagulopathy in contrast to other cases published in literature [3–5,8–10].

Vomiting and abdominal pain were the main presenting complaints for our patient as reported by Eurboonyanun et al. [3], Niehues et al. [5], and Aizawa et al. [9], however jaundice and hematemesis were absent in contrast to cases reported by Eurboonyanun et al. [3] and Veldt et al. [10].

First to third parts of the duodenum was the most common locations reported [3–5] similar to that seen in our case.

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