CASE REPORT

A curious case of spontaneous duodenal haematoma presenting a diagnostic challenge

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SUMMARY

Duodenal haematomas are uncommon. They are usually diagnosed on CT of the abdomen. The established treatment strategies are conservative management, surgical evacuation and percutaneous drainage. We present a case of spontaneous duodenal haematoma in a patient with no risk factors posing as a diagnostic challenge due to atypical CT findings. This case also illustrates the utility of ultrasound-guided needle aspiration as a practical treatment option for such haematomas.

BACKGROUND

Spontaneous duodenal haematomas are uncommon, and diagnosing them especially in a patient with no risk factors, as in our case, can prove to be very challenging. We believe that considering this differential in any mass observed in the duodenum may allow for more rapid diagnosis and management of the pathology. We have also demonstrated that imaging-guided percutaneous aspiration is a feasible and less invasive option compared to traditional surgical evacuation.

CASE PRESENTATION

A 71-year-old man presented with 5 days of epigastric abdominal pain, postprandial nausea and occasional dark vomits. He was previously healthy and denied any abdominal trauma, clotting deficiencies or use of regular anticoagulants. Physical examination was unremarkable except for epigastric tenderness.

INVESTIGATIONS

The white cell count, platelet cell count, lipase and international normalised ratio were normal. An emergency oesophagogastroduodenoscopy was performed to assess for peptic ulcer disease. However, it did not progress beyond the gastric fundus, hindered by copious amounts of gastric residue. CT scan of the abdomen revealed a cystic structure of low radiodensity (8–12 Hounsfield units) in the second part of duodenum (76×57×82 mm) compressing the duodenal lumen and causing proximal obstruction (figure 1A, B). An incidental finding of a 14×12 mm aneurysm arising from the inferior pancreaticoduodenal artery was noted. Tumour markers carcinoembryonic antigen and CA 19.9 were normal. MRI demonstrated spiculated fat stranding around the slightly heterogeneous structure, raising suspicions of a duplication cyst with secondary infection.

DIFFERENTIAL DIAGNOSIS

The radiological differentials included a duodenal duplication cyst and an intramural cystic malignancy. At this stage, a haematoma was thought to be highly unlikely given no risk factors.

TREATMENT

Acute treatment was initiated with gastric decompression and intravenous hydration.

Broad spectrum empirical antibiotics were started. After extensive multidisciplinary discussions, taking into account the uncertain nature of the lesion, its location and the possibility of malignancy, a diagnostic percutaneous aspiration was preferred over an endoscopic ultrasound-guided aspiration. Thirty millilitres of blood-stained fluid was percutaneously aspirated under ultrasound guidance. Cytology revealed predominantly altered blood with no malignant cells. Culture was negative for pathogens and antibiotics were ceased.

OUTCOME AND FOLLOW-UP

Symptoms of intestinal obstruction improved markedly the next day, and the patient remained symptom free. A repeat ultrasound scan revealed that the mass had decreased in size. Attempt at embolising the aneurysm was abandoned as none were seen on angiogram of the abdominal vasculature. CT scan 4 months later showed a diminishing mass and a thrombosed inferior pancreaticoduodenal artery pseudoaneurysm (figure 2). It was speculated that this pseudoaneurysm could have communicated with the duodenal wall and contributed to the growth of the haematoma.

DISCUSSION

Our patient presented with symptoms of duodenal obstruction, but had no risk factors to suggest a haematoma. CT revealed a duodenal mass of 8–12 Hounsfield units, which was significantly lower than blood and suspicious for a cystic neoplasm. Another confounding finding was the features of inflammation seen on MR cholangiopancreatography, which shifted the differential diagnoses towards an infected cyst. Laparotomy and surgical evacuation was considered but were not favoured in view of the intricate location of the lesion. It was fortunate that the needle aspirate was both diagnostic and therapeutic.

First described by McLauchlan in 1838 as a 'fatal false aneurysmal tumour involving the duodenum', duodenal haematomas occur infrequently.¹ They usually occur after blunt abdominal trauma, postulated to be due to the fixed retroperitoneal position

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Figure 1 CT scan demonstrating a mass of 8–12 Hounsfield units (white arrow) in the wall of the distal second part of the duodenum (D2), and the inferior pancreaticoduodenal artery false aneurysm (black arrow). (A) Axial and (B) coronal.

of the duodenum tethered to the ligament of Treitz, thus predisposing it to deceleration injuries and leading to the disruption of the rich submucosal vascular plexus.² Other less common aetiologies include inherited and acquired coagulopathies, regular warfarin use and postendoscopic biopsy.^{3–5} Ahn *et al*⁶ also reported a case in association with peptic ulcer disease.

Figure 2 CT scan showing resolution of haematoma (white arrow). Axial image.

Duodenal haematomas commonly present with bilious vomiting, upper abdominal pain and occasionally, symptoms of duodenal obstruction.^{1 2} CT is an excellent modality for diagnosis, and scans typically reveal thickened bowel wall causing varying degrees of luminal narrowing and obstruction.^{7–9} Radiodensity is typical of blood, between 30 and 90 Hounsfield units. Furthermore, haematomas decrease by 1.4 Hounsfield units a day due to organisation.¹⁰ A chronic slow-growing haematoma, possibly fed by the adjacent false aneurysm, could explain the low radiodensity detected in our patient.

The mainstay strategy for treatment is conservative management if the patient is stable.¹¹ In the past, surgical evacuation of the haematoma would occasionally be performed if no improvement is observed in 7–14 days.^{2–4 11} However, in the past decade, this style of management seems to be going out of vogue as guided percutaneous aspirations are proving to be highly effective, with at least four successful cases reported in recent years.² In retrospect, this case did, albeit not intentionally, demonstrate successful ultrasound-guided drainage of a duodenal haematoma.

Learning points

- ▶ This case illustrates the formidable challenges in diagnosing a spontaneous duodenal haematoma, especially in a patient with no risk factors.
- ▶ We suggest that it should be considered in the differential diagnoses of any mass observed in the duodenum.
- ▶ If conservative management fails in the treatment of a duodenal haematoma, ultrasound-guided needle aspirate would be a pragmatic option to consider.

Competing interests None.

Patient consent Obtained.

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