CASE REPORT

Brunneroma with duodenojejunal intussusception: a rare cause of gastric outlet obstruction

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SUMMARY

Duodenal adenoma presenting with duodenojejunal intussusception is very rare. Only a few have ever been reported. Upon evaluation it may be difficult to rule out malignancy. The final diagnosis may be reached only at surgery and confirmed at histopathology.

BACKGROUND

Benign tumours of the duodenum are of a rare occurrence and majority is found incidentally. More rarely they may be large (>2 cm) and present with features of obstruction or bleeding and are difficult to differentiate from periampullary cancers. The management may vary from local resection to pancreaticoduodenectomy and the final diagnosis is reached only upon histopathological examination.

CASE PRESENTATION

A 32-year-old woman presented with a 2-month history of recurrent upper abdominal pain, non-bilious vomiting and weight loss. There was no history of fever, jaundice, gastrointestinal (GI) bleed or long-term non-steroidal anti-inflammatory drug intake. Abdominal evaluation revealed non-tender and ill-defined right upper quadrant lump. There was no peripheral lymphadenopathy. Her haemoglobin was 10 g% and serum albumin was 3.2 g%. Rest of the haematological and biochemical evaluation were within normal limits. Endoscopic evaluation had a normal oesophagus with congested distal stomach mucosa. Duodenum could not be entered as there was deformed pyloric opening although there was no evidence of a mass lesion. Imaging studies revealed a mass in relation to the distal stomach and duodenum (figure 1). On the basis of above findings a preoperative impression of gastric outlet obstruction was made and the patient was taken up for laparotomy with a plan for distal gastrectomy or a pancreaticoduodenectomy. During surgery, a duodenojejunal

intussusception was found (figure 2) with a large tumour of around 8 cm size as the point of intussusceptum. There were significant adhesions suggestive of a chronic pathology. It was reduced and there was no evidence of vascular compromise (figure 3). The large tumour was palpable from the serosal aspect of the first part of duodenum. She underwent a distal gastrectomy and Billroth II (BII) reconstruction. Cut section revealed a 7.9 cm tumour at D1 and the diagnosis of Brunner's gland adenoma was made upon histopathological examination (figure 4). Postoperative course was unremarkable with total amelioration of symptoms.

OUTCOME AND FOLLOW-UP

The patient is on follow-up and is doing well 18 months after surgery.

DISCUSSION

Brunner's glands which are located in the deep mucosa and submucosa of the duodenum and because of their predominance in the proximal part, majority (50–70%) of adenomas develop in the proximal part of duodenum.^{1 2} The occurrence of duodenal adenomas may be related to the peptic ulcer disease² or *Helicobacter pylori* infection.³ They are usually asymptomatic or are discovered incidentally during endoscopy performed for various complaints. The most common presentations are obstruction and GI bleeding.¹ The symptoms are dependent on the size of the tumour with the chances of obstruction increasing if the size is greater than 2 cm.⁴ Other presentations may be with gastric outlet obstruction,⁵ duodenal obstruction and rarely with the intussusception.^{6–9} Very few cases of the Brunneroma have been reported which may be because of the rarity of presentation. Even rare are the large tumours >2 cm size presenting with complications as in this case. Only 2–3 cases have been reported where

Figure 1 Contrast enhanced computed tomography scan with a mass lesion in relation to the first part of duodenum.

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Figure 2 (A and B) Operative pictures revealing intussusception.

Figure 3 After reduction of the intussusception.

Brunneroma has been associated with duodenojejunal intussusception,^{10 11} Acute pancreatitis,¹² biliary fistula¹³ and biliary obstruction may be other presenting features. In some cases the differentiation with periampullary malignancy may be difficult and patient may undergo a pancreaticoduodenectomy with the diagnosis only being established upon histopathology. The

lesion is benign with a favourable long-term outcome and malignant transformation being extremely rare. Since most patients are asymptomatic they do not require treatment. Endoscopic or surgical removal of the adenoma is the treatment of choice.^{14 15} Surgical options include laparoscopic¹⁶ or open polypectomy, segmental resection, pancreas sparing duodenectomy¹⁷ and, occasionally, pancreaticoduodenectomy with good long-term outcome.

Learning points

- ▶ Benign tumours of the duodenum are of rare occurrence and even rare are large >2 cm tumours which may present with features of obstruction or bleeding.
- ▶ Preoperative work up may not be able to establish the diagnosis and may be difficult to differentiate from periampullary cancers.
- ▶ The benign condition may require a pancreaticoduodenectomy, which is not without risks and the diagnosis only being established upon histopathology.
- ▶ Endoscopic or surgical removal of the Brunneroma is the treatment of choice.
- ▶ In this rare disease malignant transformation of the tumour is a rarity and hence conservative treatment is recommended.

Figure 4 (A–C) Resected specimen and histopathological picture.

Competing interests None.

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