A case of gastroduodenal lipomatosis

JASB Jayasundara, CS Sellaheewa, AD Hall, RT Patel

Russell's Hall Hospital, Dudley Group NHS Foundation Trust, Dudley

ABSTRACT

Although sporadic lipomas are not uncommon in the upper gastrointestinal tract, diffuse gastroduodenal lipomatosis is a rare clinical entity. Medical literature reveals a limited number of such cases presenting with upper gastrointestinal obstruction or bleeding. We present the management experience of a 43-year-old woman who presented with intussusception causing high small-bowel obstruction secondary to jejunal lipomatosis. Computed tomography showed diffuse fatty thickening of the gastric wall in addition to multiple lipomas in stomach, duodenum and in the jejunum with jejunal intussusception. As complete resection of the affected segment was not possible, a side-to-side jejunal bypass was made. The patient remains well on review after 18 months.

KEYWORDS

Lipoma – Intussusception

Accepted 25 June 2016

CORRESPONDENCE TO

Bingumal Jayasundara, E: bingumalj@gmail.com

Introduction

Although sporadic lipomas are not uncommon in upper gastrointestinal tract, diffuse gastroduodenal lipomatosis is rare.¹ The literature reveals only a limited number of such patients presenting with upper gastrointestinal obstruction or bleeding.^{1–5} Owing to the rarity of this condition, each case had been managed by the expertise of the individual surgeon. We present the management experience of a 43-year-old woman who was obese, who presented to us with upper small bowel obstruction due to gastroduodenal lipomatosis.

Case history

A 43-year-old woman weighing 90kg (body mass index 37kg/m²) presented with absolute constipation for 5 days and persistent bile-stained vomiting for 3 days. She was otherwise well until the onset of symptoms and did not have a history of previous surgery. She consumed about 10–12 units of alcohol per week and was a non-smoker.

The patient had stable vital signs and her abdomen was soft, non-distended and non-tender with no mass lesions, organomegaly or ascites. Routine haematological investigations and plain radiography of the abdomen were unremarkable. She was initially managed with fluid replacement and nasogastric aspiration and subsequently underwent computed tomography (CT) of the abdomen, which showed features of gastroduodenal lipomatosis with a suspicion of intussusception of a jejunal segment (Figs 1 and 2). After CT, she showed improvement in her symptoms for the next 2 days, possibly due to oral contrast, with declining nasogastric aspirates. Her haematological and biochemical

investigations remained stable throughout. As the condition did not fully resolve, a laparotomy was performed under general anaesthesia on the fourth day.

On entering the peritoneal cavity, a massive thick-walled stomach extending well below the left upper quadrant was noted. Multiple extramural and intraluminal lipomas were felt from the second part of the duodenum to the first 30cm of the jejunum. These lesions were less numerous in the duodenum and closely aggregated in the proximal jejunum. There was no obvious intussusception of the jejunum but surface changes in the jejunum about 20cm distal to duodenojejunal flexure created a suspicion of a possible resolved intussusception. The initial plan was to perform a gastrojejunostomy as resection of the diseased segment from the gastro-oesophageal junction to mid-jejunum was deemed overtreatment for an apparently benign disease. During the attempted posterior gastrotomy, it was noted that the gastric subserosal fat layer was more than 5–6cm in thickness; thus, a stapler or hand-sewn anastomosis did not appear to be safe. A jejuno-jejunostomy bypassing the affected proximal jejunal segment was therefore considered as a safe option. A side-to-side stapled jejuno-jejunostomy was fashioned about 5cm from duodenojejunal flexure, bypassing the next 40cm of jejunum and during the enterotomy a submucosal lipoma was biopsied (Fig 3). The jejunal mucosa appeared normal. The postoperative period was uncomplicated and free fluids were started within 48 hours. The patient tolerated a normal diet by the fourth day following surgery. She was discharged on the fifth postoperative day.

Four days later, the patient was readmitted with vomiting and was found to be in hypokalaemic, hypochloraemic alkalosis and acute renal injury (estimated glomerular filtration rate 42). This was thought to be due to small bowel

Figure 1 Coronal computed tomography reformat showing dilated duodenum and proximal jejunum with submucosal lipomas projecting into the fluid filled lumen (white arrows); fat in the wall of the gastric fundus (Gf) can also be appreciated in the upper left abdomen; just lateral to the DJ flexure (DJf) is the lipomatous jejunal intussusception (outline arrow)

Figure 2 Coronal computed tomography reformat showing gross fatty infiltration of the stomach wall (white arrows) around the distended, fluid filled lumen; two discrete lipomas can be appreciated in the fundus (black arrows)

obstruction secondary to eating a large meal which contained oranges. Following fluid and electrolyte replacements, her condition improved. A CT scan was repeated, which showed oral contrast passing into the terminal ileum without any

Figure 3 A jejunal lipoma biopsied at the enterotomy

blockage. The patient was discharged home after 6 days after admission with a tailor-made dietary plan. Histology of the excised tissue confirmed a lipoma. The patient has been regularly reviewed and is well 18 months after surgery. In the absence of symptoms, the patient was not keen on a subsequent elective resection of the diseased foregut and midgut segment, owing to the complexity of the surgery.

Discussion

Solitary lipoma is a common benign tumour in the upper gastrointestinal tract, but occurrence of multiple lipomas involving the stomach and duodenum are rare.¹ Only a handful of cases have been previously reported.^{1–5} All such cases report multiple sharply margined lipomatous lesions with a fibrous capsule noted in the foregut territory. There are a few reported cases of diffuse subserosal fatty infiltration of the stomach in addition to protruding well-defined lipomas, termed gastric lipomatosis or lipohyperplasia.^{4,5} The index case is peculiar in that, in addition to diffuse gastric subserosal lipohyperplasia, there was the presence of gastric, duodenal and proximal jejunal multiple lipomas. The exact aetiology of such lipomatosis is yet unknown. Current imaging modalities, such as CT and magnetic resonant imaging would provide an accurate diagnosis.⁴ Earlier cases were reasonably evaluated by plain radiography and barium studies.^{2,5}

The patient's initial symptoms were caused by intermittent or partial upper small-bowel obstruction, probably due to jejunal intussusception which had resolved by the time of surgery. Previously reported cases have presented mainly due to bleeding rather than obstruction. Such cases have been managed with a range of options, conservative supportive care to limited gastroduodenectomy.^{1,5,4}

During the management of the current case, it was not safe to excise the whole stomach, the entire duodenum and proximal jejunum, so we had to provide a bypass to these multiple lipomas. Gastrojejunostomy was not possible in the

presence of abnormal diffuse thickening of the gastric wall due to lipohyperplasia. Jejunio-jejunostomy provided good outcome at 18 months in the background where the patient was not keen on a major elective resection (a combined total gastrectomy, Whipple procedure and small-bowel resection) even if warranted. Although the patient does not have features of a blind loop, the theoretical possibility of lipoma-related complications such as bleeding and intussusception still persists.

Owing to their rarity, these cases need to be managed in a tailor-made manner with local expertise. In such instances, bypass of the affected segment can be done with minimal long-term morbidity.

References

1. Devlies F, Van Hoe L, Leemans AM *et al.* Gastroduodenal lipomatosis. *Eur Radiol* 1997; **7**: 338–340.
2. Deeths TM, Madden PN, Dodds WJ. Multiple lipomas of the stomach and duodenum. *Am J Dig Dis* 1975; **20**: 771–774.
3. Fawcett NW, Bolton VL, Geever EF. Multiple lipomas of the stomach and duodenum. *Ann Surg* 1949; **129**: 524–527.
4. Jeong IH, Maeng YH. Gastric lipomatosis. *J Gastric Cancer* 2010; **10**: 254–258.
5. Peabody JW, Ziskind J. Lipomatosis of the stomach. *Ann Surg* 1953; **138**: 784–790.