Emergency presentation of retrograde intussusception as a late complication of gastric bypass

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ABSTRACT

Retrograde intussusception is a rare complication of a Roux-en-Y gastric bypass. With the rising number of gastric bypass operations being performed in the UK, the incidence of retrograde intussusception is likely to increase. We report the first case in the UK and highlight its insidious presentation and the importance of considering intussusception in any patient with a history of a Roux-en-Y gastric bypass.

KEYWORDS

Gastric bypass – Intussusception – Roux-en-Y

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An observational study from 2010 reported an exponential increase in the number of bariatric operative procedures being performed in the UK. In 2000 there were 65 gastric bypass procedures. In 2007 there were almost 20 times as many with 1,212.¹ This trend is likely to continue as more NHS trusts provide bariatric services. As an increasing number of procedures are performed, we can expect more patients presenting to general surgeons with post-operative complications that they have not encountered previously.

We describe an emergency presentation of retrograde jejunal intussusception as a long-term complication of gastric bypass surgery.

Case history

A 24-year-old woman presented to the accident and emergency department with a 3-day history of increasing abdominal pain, vomiting and intolerance to solid food; she had not opened her bowels or passed flatus for two days. Her only significant past history was a laparoscopic Roux-en-Y gastric bypass (RYGB) performed in Switzerland four years prior to admission, from which she had a weight loss of over 50kg, giving her a body mass index of 39.4kg/m² on admission. On examination she was noted to be distended but with no signs of peritonism. She was tachycardic but apyrexial with all other observations stable. Laboratory tests showed a mildly raised C-reactive protein (25mg/l) but all other blood tests were within normal range. An abdominal x-ray showed a small bowel obstruction. A nasogastric tube was inserted with minimal drainage.

Computed tomography (CT) was performed the same day, which showed that loops of proximal jejunum were distended with fluid, with an abnormal loop in the left abdomen that had the appearance of a jejunal intussusception (Fig 1). The patient was taken to theatre the next morning for a laparotomy and small bowel resection. The two proximal segments of small bowel constituting the Roux loop were dilated and the stomach was distended (Fig 2). There was a large jejunal intussusception with the distal limb of the Roux loop passing back up and through the jejunojejunal anastomosis into the biliary limb. There was therefore a closed loop gastric obstruction as well as a conventional small bowel obstruction. A trial reduction of the intussusception was unsuccessful. The jejunum was consequently opened and the intussusception reduced. A segment of necrotic bowel was excised. The Roux-en-Y anastomosis was reconstituted and a gastrostomy inserted.

Post-operatively, the patient was allowed to eat and drink as tolerated and, following a contrast study showing no leak, the gastrostomy was removed five weeks later. The patient stayed in hospital for a total of 11 days and made an uneventful recovery.

Discussion

Intussusception following gastric bypass surgery is rare. A case series and systematic review identified 63 patients from the US, of which 55 underwent emergency operations.² No cases in the UK have previously been reported.

Contrary to expectation, intussusception following RYGB differs from its other causes in that the vast majority of

Figure 1 Anterior (superior) and transverse cross sectional view of pre-operative computed tomography. Intussusception circled

cases are retrograde. The reason for this is not entirely clear. However, Hocking *et al* performed small bowel manometry and suggested a motility disorder from the divided bowel as opposed to an identifiable pathological lead point.⁵ They hypothesised that since pacemaker potential is fastest in the duodenum and initiates small bowel motility, transection of the jejunum disrupts the propagation of potentials from the duodenal pacemaker into the Roux limb. Thus, ectopic pacemakers arise in the Roux limb and may then migrate in either direction. A 'lead point' can then result at the jejuno-jejunosomy, where peristaltic waves from both the normal duodenum pacemakers and ectopic pacemakers converge.

In keeping with the unusual nature of the intussusception, clinically, patients do not present with the classic triad of abdominal pain, bloody stool and a palpable mass suggestive of ileocolic intussusception. Instead, they are more likely to have non-specific symptoms with the severity of abdominal pain being related to whether the intussuscep-

Figure 2 Intra-operative finding of intussusception (circled)

tion is complete or not. Physical examination often offers little further information but CT will usually demonstrate a 'target sign' suggestive of intussusception.⁴ Management should include a low threshold for surgical resection and reconstruction of the anastomosis because of the high risk of necrosis and perforation. Internal hernia is a known long-term complication following RYGB that should be considered in the differential diagnosis, particularly when abdominal pain is acute, recurrent and colicky in nature. Surgical exploration is again indicated with closure of all open mesenteric defects.

Conclusions

A high index of suspicion will be required for any person with a history of RYGB presenting with acute abdominal symptoms. CT is likely to be the investigation of choice for ruling out serious pathology requiring emergency surgery.

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