Concurrent internal hernia and intussusception after Roux-en-Y gastric bypass

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DESCRIPTION

A 32-year-old woman with medical history significant for open Roux-en-Y gastric bypass performed 11 years prior presented to an urgent care with sudden severe epigastric pain associated with nausea and vomiting. She was profoundly hypothermic (91°F) and bradycardic (40 bpm) but maintained normal blood pressure. Laboratory values were grossly within normal limits except for an elevated lactic acid (2.99 mmol/L). Rewarming protocol, broad-spectrum intravenous antibiotics (piperacillin–tazobactam and vancomycin) and intravenous fluid resuscitation were initiated at this time. CT of the abdomen with intravenous and oral contrast demonstrated intussusception at the site of the jejunojejunal anastomosis with severe oedema of the mesentery and focally dilated bowel consistent with a high-grade obstruction due to an internal hernia (figure 1A). The patient was emergently transferred to the hospital and underwent an exploratory laparotomy. Intraoperatively, the intussuscepted segment of small bowel surrounding the jejunojejunal anastomosis was identified with an associated internal hernia secondary to an adhesive band (figure 1B). Once the band was lysed, both the internal hernia and intussusception spontaneously reduced. However, the jejunojejunal anastomosis and the reduced intussusceptum were resected en bloc due to its dusky appearance and poor peristalsis concerning for viability. The Roux limb, biliopancreatic limb and common channel were then anastomosed to reconstruct the Roux-en-Y. Her diet was gradually advanced to tolerance and the remainder of her hospital course was uncomplicated.

Internal hernias may present at any time following Roux-en-Y surgery due to the creation of mesenteric defects or potential spaces during reconstruction of the gastrointestinal tract. The incidence of internal hernia formation after gastric bypass is estimated to be between 0.9% and 4.5%.[1] Some routine surgical defects include Petersen's defect, which is a potential space behind the Roux limb and transverse mesocolon, mesenteric defect related to the jejunojejunostomy site for creation of the Roux limb, and potential spaces created by adhesive bands. The resulting venous congestion leads to mesenteric ischaemia and the hallmark symptom of intermittent abdominal pain, which should prompt urgent surgical evaluation as this should be considered an internal hernia unless proven otherwise in a patient with a history of Roux-en-Y.[2]

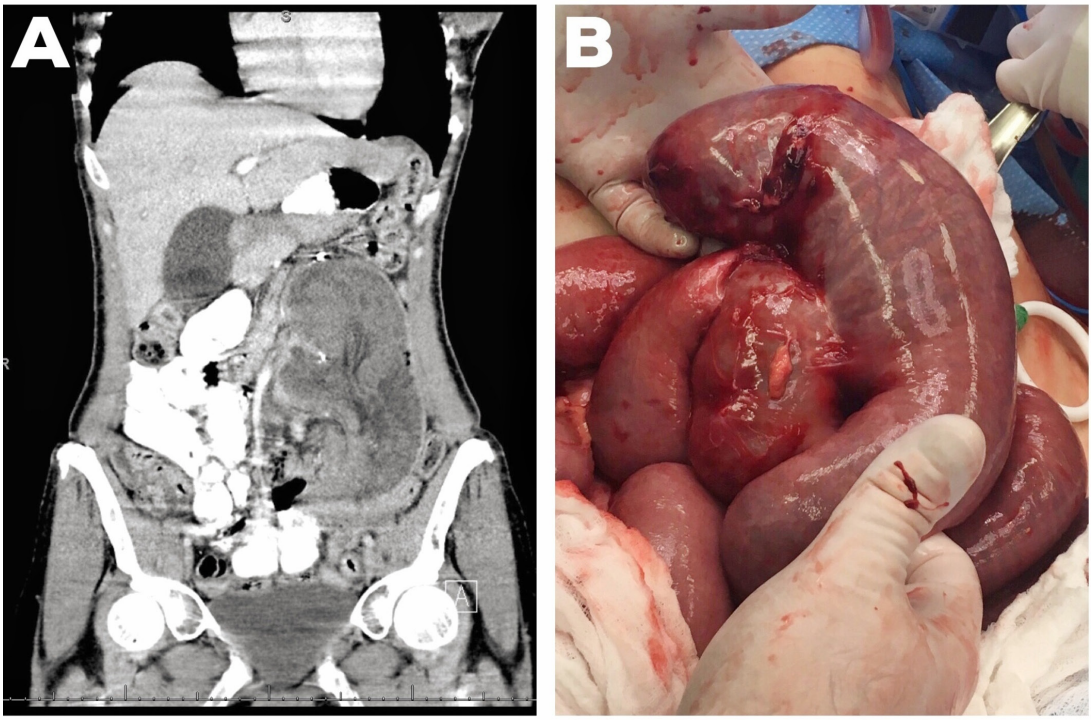

Figure 1 (A) CT of the abdomen with intravenous and oral contrast demonstrating high-grade obstruction with focally dilated bowel and mesenteric oedema secondary to intussusception and internal hernia. (B) Intussuscepted segment of small bowel surrounding jejunojejunal anastomosis with adhesive band causing internal hernia formation.

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Learning points

- An internal hernia should be suspected in any patient with a history of gastric bypass surgery and abdominal complaints.
- Prompt surgical intervention is required, sometimes without imaging, if there are strong clinical indications.
- Internal hernia formation with concurrent intussusception is a rare and previously unreported complication of Roux-en-Y gastric bypass surgery.

Intussusception after gastric bypass is also rare with a reported incidence of 0.1% to 0.3%.[3] CT often reveals the classic 'target sign' or 'tube within a tube' sign. It is believed that intussusception is related to dysmotility, which develops secondary to ectopic pacemakers. However, other proposed mechanisms include the development of new lead points such as staple lines or sutures that are introduced in gastric bypass surgery. Surgery is typically required to reduce the intussuscepted segment of bowel with resection if the bowel appears non-viable.

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REFERENCES

1 Garza E, Kuhn J, Arnold D, *et al*. Internal hernias after laparoscopic Roux-en-Y gastric bypass. *Am J Surg* 2004;188:796–800.
2 Kagoma YK, Gayer G. Computed tomography of internal hernias following laparoscopic roux-en-y gastric bypass surgery. *Semin Ultrasound CT MR* 2018;39:145–50.
3 Singla S, Guenthart BA, May L, *et al*. Intussusception after laparoscopic gastric bypass surgery: an underrecognized complication. *Minim Invasive Surg* 2012;2012:1–8.