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## Images in Surgery

## Retrograde intussusception of the small bowel and concurrent mesenteric torsion in a female patient after laparoscopic Roux-en-Y gastric bypass

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Retrograde intussusception of the small bowel is a rare cause of bowel obstruction after gastric bypass. Even rarer is the presence of intussusception with concurrent mesenteric torsion. In fact, there is no previous report in the literature describing this clinical presentation. Herein, we present a case of simultaneous retrograde intussusception and rotation of the small intestine in a female patient after laparoscopic Roux-en-Y gastric bypass (LRYGBP).

A 38-year-old woman presented to the emergency room with a 4-hour history of diffuse abdominal pain, vomiting, and absence of bowel movement. Her medical history was remarkable for having had an LRYGBP performed 13 years ago. Vitals were normal and laboratory examination was unremarkable except for a leukocytosis of  $18 \times 10^3/\mu\text{L}$  and C-reactive protein of 3.02. Abdominal computed tomography (CT) revealed intussusception of the small bowel with the typical “target sign” (Fig. 1a) and possible mesenteric torsion (Fig. 1b). The patient was then taken to the operating room as level 1 for exploratory laparotomy.

Intraoperative findings included a retrograde intussusception of the middle section of the ileum, causing small bowel obstruction and dilation of the mesenteric vessels because of volvulus of the small bowel at three-quarters of its length, which included the jejunojejunostomy from the previous gastric bypass. After reducing the volvulus, the small bowel

appeared viable with normal peristalsis. The patient had an uneventful recovery and was discharged home on postoperative day 7.

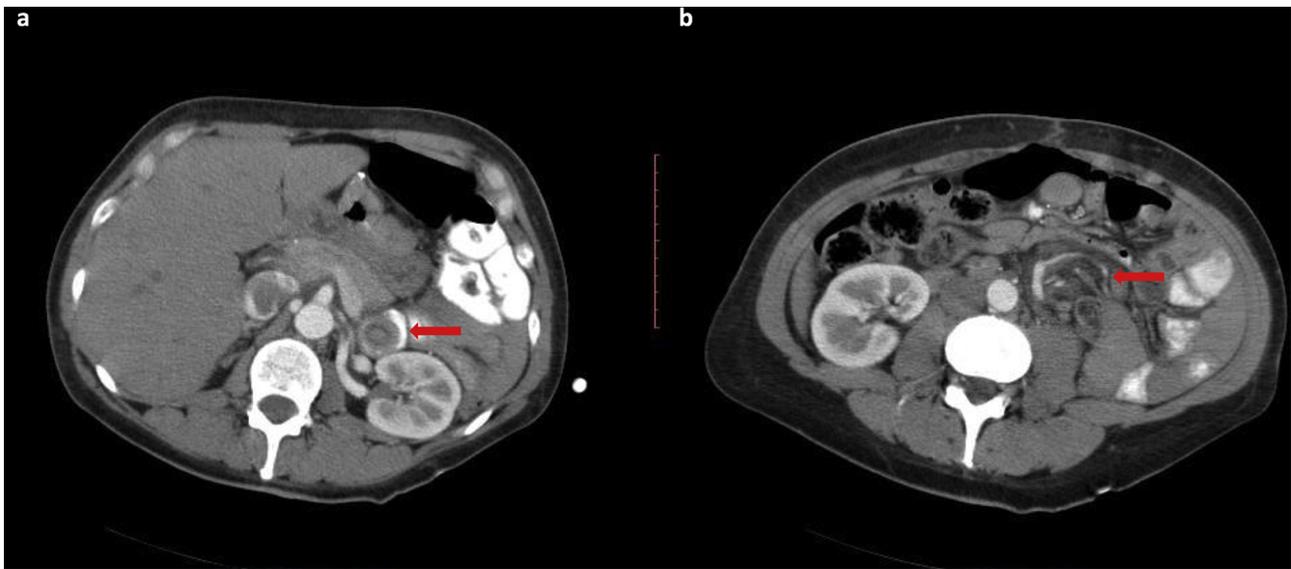
It is beyond doubt that bariatric surgery has become particularly popular, with gastric bypass being the most frequent procedure performed.<sup>1</sup> Retrograde intussusception is a rare complication after LRYGBP,<sup>2</sup> with its incidence estimated at 0.5% of cases,<sup>3</sup> and mesenteric torsion is even rarer, with an incidence of 0.025% after gastric bypass procedures.<sup>4</sup> The exact underlying mechanism remains unclear; nevertheless, the decrease in the width of the mesenteric root has been hypothesized to increase the possibility of volvulus and small bowel intussusception.<sup>3,4</sup> Although most intussusceptions are generally antegrade after LRYGBP, retrograde cases may also be encountered.<sup>3</sup>

Intussusception may occur many years after gastric bypass operations. Abdominal CT is the most reliable diagnostic modality, followed by diagnostic laparoscopy. Finally, treatment should be either resection of the earlier jejunojejunostomy with reconstruction of a new one distally, or simple reduction when the viability of the bowel can be assured intraoperatively.<sup>3</sup> Both can, however, lead to recurrence, with no evidence-based approach available for the management of these particular complications.

In summary, despite the rarity of small bowel intussusception and concurrent volvulus, in bariatric patients, surgeons should have a high clinical suspicion for these entities to avoid delay in patient care.

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**Fig. 1.** (a) Preoperative CT scan of the abdomen, demonstrating intussusception of the small intestine. (b) CT scan with abnormal mesenteric vasculature, representing mesenteric volvulus (*whirl sign*).

#### Conflict of interest

None

#### References

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