

Jejunojejunal Intussusception After Roux-en-Y Gastric Bypass and Abdominoplasty: A Rare Association or a Mere Coincidence?



Abdominoplastia e Intussusceção Intestinal Após *Bypass* Gástrico em Y de Roux: Associação Rara ou Mera Coincidência?

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ABSTRACT

Small bowel intussusception is a rare complication after Roux-en-Y gastric bypass, with few cases reported, and none in the immediate post-operative period of an abdominoplasty. We report the case of a 42-year-old woman, with an history of a laparoscopic Roux-en-Y gastric bypass, who developed small bowel occlusion secondary to a retrograde jejunojejunal intussusception in the second post-operative day of an abdominoplasty. This is the first report of a small bowel intussusception after Roux-en-Y gastric bypass in the post-operative period of an abdominoplasty. Doubts remain about the possible causal effect abdominoplasty might have in small bowel intussusception after Roux-en-Y gastric bypass.

Keywords: Abdominoplasty / adverse effects; Gastric Bypass / adverse effects; Intussusception / etiology; Jejunal Diseases / etiology; Postoperative Complications / etiology

RESUMO

A intussusceção intestinal é uma complicação muito rara após o *bypass* gástrico em Y de Roux, com poucos casos descritos na literatura, e nenhum deles no contexto de pós-operatório imediato de abdominoplastia. Os autores apresentam o caso de uma mulher de 42 anos com antecedentes de *bypass* gástrico em Y de Roux que desenvolveu uma oclusão intestinal secundária a uma intussusceção retrograda jejunojejunal no segundo dia pós-operatório de uma abdominoplastia. Esta é a primeira descrição de uma intussusceção intestinal após *bypass* gástrico em Y de Roux no período pós operatório imediato de abdominoplastia. Permanece a dúvida sobre a possível relação causal que a abdominoplastia possa ter na intussusceção intestinal após *bypass* gástrico em Y de Roux.

Palavras-chave: Abdominoplastia / efeitos adversos; *Bypass* Gástrico / efeitos adversos; Complicações Pós-Operatórias / etiologia; Doenças do Jejunio / etiologia; Intussusceção / etiologia

INTRODUCTION

Small bowel intussusception is a rare complication after Roux-en-Y gastric bypass (RYGB), with few cases reported, and none in the immediate post-operative period of an abdominoplasty.

The clinical presentation is variable ranging from intermittent non-specific symptoms in patients with incomplete and very short intussusception to acute symptoms due to complete intussusception and intestinal obstruction.¹

The pathophysiology is not clearly understood, and multiple mechanisms have been proposed, with the currently most accepted being a motility disorder.¹

Complications such as intestinal ischemia and perforation of the invaginated segment may occur, making prompt diagnosis and surgical treatment crucial.

We report the case of a small bowel intussusception after RYGB in the post-operative period of an abdominoplasty.

CASE REPORT

A 42-year-old female with a body mass index of 44 kg/m² underwent a laparoscopic RYGB two years ago [mechanical gastro-jejunal anastomosis with a blue load linear sta-

pler (3.5 mm) and isoperistaltic side-to-side jejunojejunos-tomy with a white load linear stapler (2.5 mm) and closure of the enterotomies with running 3.0 polydioxanone suture (PDS®)]. The patient lost 50 kg, corresponding to an excess weight loss of 99%. Given the associated abdominal skin excess she underwent a traditional abdominoplasty: infra-umbilical skin excess removal, elevation of the superior abdominal flap, rectus muscle fascia plication, advancement of the superior abdominal flap and umbilicus transposition to the abdominal wall. The procedure was uneventful.

On the second post-operative day she began complaining of intermittent abdominal pain, abdominal distension, nausea, vomiting, and absence of passage of flatus and faeces. A plain abdominal radiography showed air-fluid levels and the abdominal CT scan (performed 36 hours after the onset of symptoms) revealed the presence of a jejunojejunal intussusception and intraperitoneal free air and liquid (Fig. 1).

The patient underwent an urgent laparotomy (approximately 39 hours after the onset of symptoms). No signs of abdominoplasty-related intra-abdominal complication were seen (e.g. a stitch through the bowel). A small amount of

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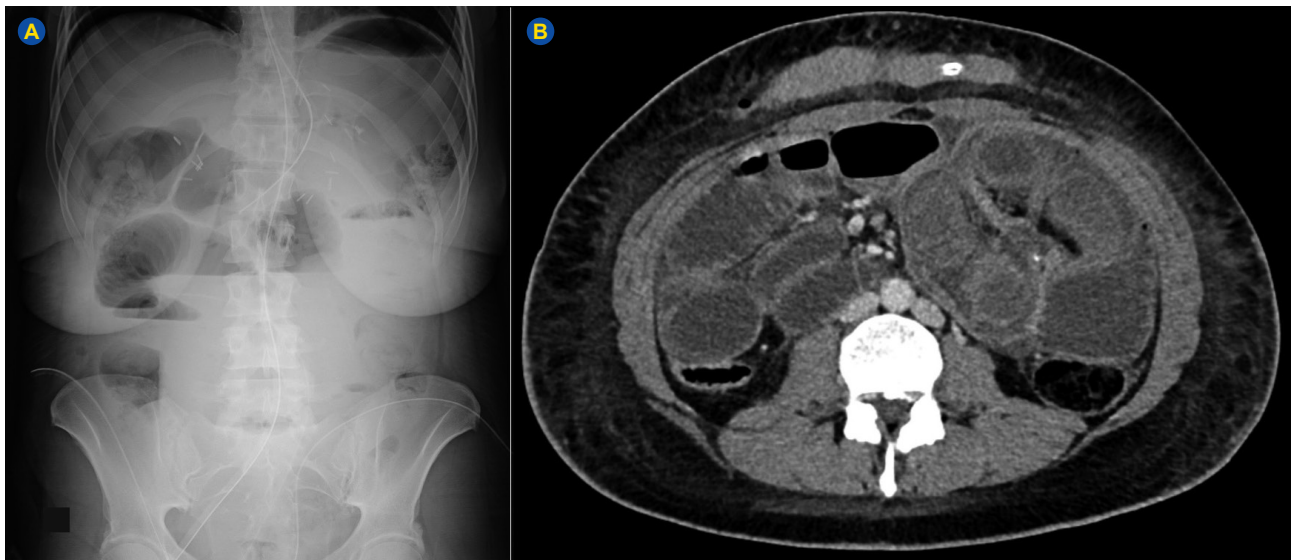


Figure 1 – Abdominal plain radiography (A) and CT scan (B) showing air–fluid levels and jejunojejunal intussusception

enteric fluid in the peritoneal cavity and a significant dilation of both biliopancreatic and alimentary limbs, secondary to a 25 cm retrograde intussusception of the common limb, involving the jejunojejunostomy, was found. The invaginated limb had irreversible ischemia with perforation at the jejunojejunostomy. The ischemic bowel (common limb) was resected including the jejunojejunostomy. The latter was reconstructed with two lateral-lateral jejunojejunal anastomosis (alimentary limb with common limb and biliopancreatic limb with common limb distally) to redo the RYGB. The resultant alimentary limb had approximately 140 cm. Fig. 2 shows the intra-operative findings.

Antibiotic therapy with piperacillin/tazobactam was started on the immediate post-operative period. Liquid diet was introduced on the 5th post-operative day, with good tolerance. The post-operative period was complicated with a health-care-associated pneumonia which was treated with adequate antibiotic therapy (piperacillin/tazobactam for 14 days and vancomycin for 10 days). No further complica-

tions were identified in the post-operative period, and the patient was discharged on the 17th post-operative day. At 12 months post-operative, the patient is asymptomatic with the routine dietary program after gastric bypass.

DISCUSSION

Roux-*en*-Y gastric bypass is one of the most commonly performed bariatric procedures and is considered the benchmark. Post-bariatric body-contouring surgery is frequently performed in these patients and procedures that address abdominal skin excess (abdominoplasty, circumferential lower body lift) are the most common body contouring procedures in these patients.²

Small bowel intussusception is a rare complication after RYGB with a reported prevalence between 0.07% and 0.6% and can cause recurrent abdominal pain, bowel occlusion and/or ischemia and necrosis.¹

Generally, intussusception after gastric bypass is retrograde. However, a few anterograde cases have already

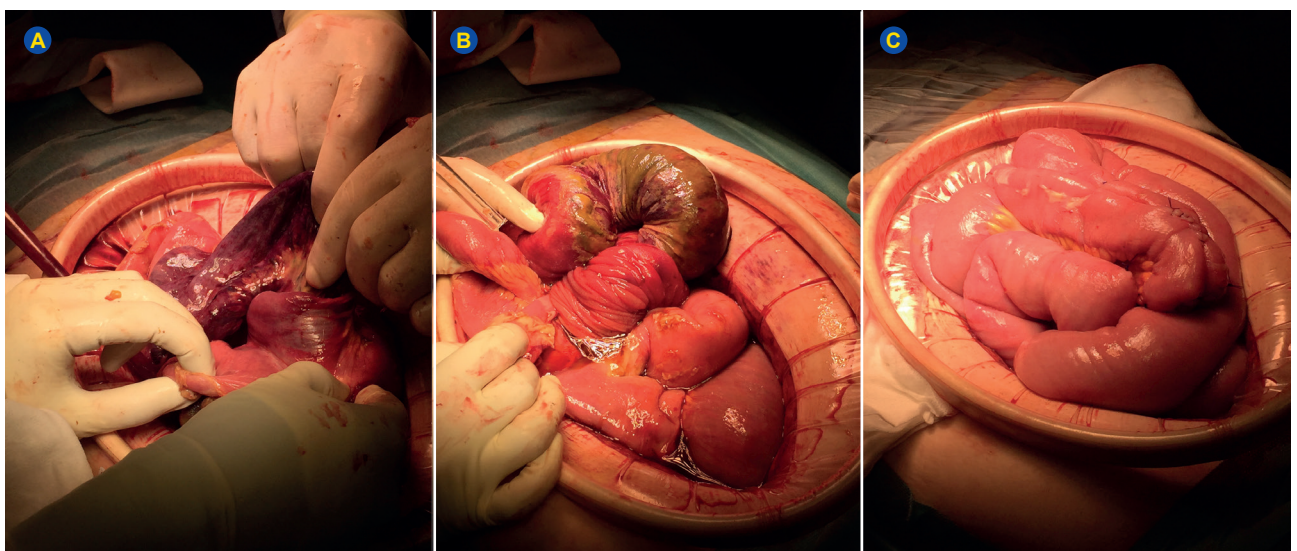


Figure 2 – Intra-operative findings. Patient's head is at the bottom right corner.

been described.¹

The pathophysiology is not clearly understood, and multiple mechanisms have been proposed, including small bowel motility disturbances with ectopic pacemakers arising in the roux limb; the suture line at the jejunojejunostomy acting as a lead point.^{1,3}

Women represent most cases, accounting for 98% of small bowel intussusception after RYGB, and significant weight loss is a common denominator in the majority of reported cases with estimated excess weight losses of 99,8%.¹

This complication has been reported as early as five months after RYGB and as later as 24 years with a mean of 3.6 years after gastric bypass.¹

Symptoms are non-specific and may be acute, intermittent or chronic depending on the degree of intussusception (with those with complete intussusception that leads to small bowel occlusion having acute symptoms and those with very short intussusception presenting with chronic and intermittent symptoms).^{1,3}

When presenting as a small bowel occlusion, other differential diagnoses must be ruled out, namely the most common internal hernias, adhesions and volvulus.⁴

In the acute setting, treatment should include the reduction of the invaginated segment and, in cases of bowel ischemia, resection and anastomosis, with jejunojejunostomy reconstruction when involved.^{1,3}

We report the case of a small bowel intussusception after RYGB in the immediate post-operative period of an abdominoplasty. To the best of our knowledge this is the first report of this gastric bypass-associated complication after an abdominoplasty.

This case represents a late consequence of small bowel intussusception: irreversible intestinal ischemia and perforation.

Given that, an early surgical intervention would have been desirable in order to avoid intestinal necrosis. A high degree of suspicion is therefore essential, particularly in the setting of post-bariatric surgery, when clinical presentations of intra-abdominal emergencies might be less exuberant. In these patients, early and aggressive investigation should be performed given the subtle clinical presentation.

Given the rarity of small bowel intussusception after RYGB it will be difficult to know whether abdominoplasty predisposes to small bowel intussusception after RYGB. However, the plastic surgeon should be aware of this gastric bypass complication when performing body contouring procedures.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

INFORMED CONSENT

Obtained.

CONFLICTS OF INTEREST

All authors report no conflict of interest.

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