

Intussusception of entero-entero-gastric bypass anastomosis: a rare but serious complication in bariatric surgery

Intususcepción de entero-entero anastomosis en bypass gástrico: extraña pero grave complicación en cirugía bariátrica

Pascale Sallaberry-Schlesinger,^{*,‡} Vicente Fernández-Rodríguez,^{*,§} Leopoldo Díaz-Fuentes[¶]

Keywords:

gastric bypass, intussusception, small bowel, complication, bariatric surgery.

Palabras clave:

bypass gástrico, intususcepción, intestino delgado, complicación, cirugía bariátrica.

ABSTRACT

We report an unusual case of late intestinal intussusception in a 43-year-old woman five years after gastric bypass. The patient presented with abdominal pain and vomiting, and computed tomography (CT scan) suggested an internal hernia. However, laparoscopy revealed intussusception at the entero-entero-anastomosis, which could not be reduced by laparoscopic technique, so it was decided to convert to laparotomy, and intussusception was successfully reduced. Post-gastric bypass intussusception is a rare complication, more frequent in women, and its exact cause is unknown. Diagnosis can be difficult due to nonspecific symptoms, so CT scan is crucial. Surgical treatment is essential, with options ranging from reduction to bowel resection, depending on the viability of the tissue. This case highlights the importance of considering this complication in bariatric patients, even years after surgery.

RESUMEN

Se reporta un caso inusual de intususcepción intestinal tardía en una mujer de 43 años, cinco años después de un bypass gástrico. La paciente presentó dolor abdominal y vómitos, y la tomografía computarizada sugirió una hernia interna. Sin embargo, la laparoscopia reveló intususcepción en la entero-entero anastomosis, la cual no logró reducirse por técnica laparoscópica, por lo que se decidió convertir a laparotomía, logrando reducir la intususcepción exitosamente. La intususcepción post bypass gástrico es una complicación rara, más frecuente en mujeres, y su causa exacta es desconocida. El diagnóstico puede ser difícil debido a síntomas inespecíficos, por lo que la tomografía computarizada es crucial. El tratamiento quirúrgico es esencial, con opciones que van desde la reducción hasta la resección intestinal, dependiendo de la viabilidad del tejido. Este caso resalta la importancia de considerar esta complicación en pacientes bariátricos, incluso años después de la cirugía.

* Los Andes University, Santiago, Chile.

‡ Third-year resident in General Surgery.

§ Undergraduate Medical Intern.

¶ General Surgeon, Hospital del Carmen, Maipú, Santiago, Chile.

Received: 06/04/2024
Accepted: 09/24/2024



INTRODUCTION

Bariatric surgery has emerged as an effective response to the significant increase in the incidence of morbid obesity faced by the Chilean and world population.¹ Among the most widely practiced bariatric surgeries is the Roux-en-Y gastric bypass.² Although it is a

safe surgery that has demonstrated acceptable complication rates, it is not free of risks. Among the most frequent complications of Roux-en-Y gastric bypass are bleeding, leaks, internal hernia, stenosis of the anastomosis, and cholelithiasis.^{3,4} A very infrequent, equally described, and potentially serious complication is thin loop intussusception.

How to cite: Sallaberry-Schlesinger P, Fernández-Rodríguez V, Díaz-Fuentes L. Intussusception of entero-entero-gastric bypass anastomosis: a rare but serious complication in bariatric surgery. Cir Gen. 2024; 46 (3): 187-190. <https://dx.doi.org/10.35366/118730>

The therapeutic approach for thin loop intussusception is still under debate, with several alternatives available, from simple loop reduction when the loop is vital to bowel resection to creating a new anastomosis.^{5,6}

The following is the case of a patient with late intussusception of the intestinal loop after gastric bypass who was successfully managed by reducing the invaginated loop without requiring resection.

PRESENTATION OF THE CASE

A 43-year-old female patient with a history of bariatric surgery five years ago, specifically gastric bypass. She was seen at the emergency department for diffuse abdominal pain with a VAS (visual analog scale) 10/10, associated with alimentary vomiting, without blood or other pathological features. She did not have changes in her bowel habits. Physical examination revealed generalized abdominal muscle resistance, pain on deep palpation in the entire abdomen, and diminished hydro aerial sounds.

Laboratory tests were performed without significant pathological findings, highlighting a C-reactive protein < 1 mg/l, a white blood cell count of 9.1×10^3 cells/mm³, creatinine 0.6 mg/dl, and normal plasma electrolytes. A computed tomography (CT) scan of the abdomen and pelvis with intravenous contrast reported findings suggestive of a Petersen-type internal hernia complicated with minimal ascites, without signs of pneumoperitoneum (*Figure 1*).

Given the above, a surgical resolution was decided.

An exploratory laparoscopy was performed, which showed distension of the loops at the level of the entero-entero anastomosis secondary to intestinal intussusception. The internal hernia suggested in the CT report was ruled out. Reduction of the invaginated loop was not achieved by laparoscopic technique, so it was decided to convert to open supraumbilical mid-laparotomy. In this way, an invaginated distal loop was identified within the entero-entero anastomosis, achieving its reduction with a vital loop (*Figure 2*). Leaks or other alterations at the level of the anastomosis

were ruled out. There were no other findings during surgery. No drainage was left.

During the postoperative period, the patient was managed with analgesic drugs, a progressive food regimen to tolerance, and antibiotic treatment with ceftriaxone and metronidazole. The patient evolved favorably, without pain, walking without inconveniences, with good oral tolerance, and preserved intestinal transit. Given the good evolution, hospital discharge was decided on the third postoperative day.

The patient remained in good condition during the six-month postoperative follow-up, with no pain or any other associated discomfort.

DISCUSSION

Intestinal intussusception after gastric bypass emerges as an infrequent but important complication to consider and must be kept in mind in bariatric surgery using a gastric bypass. According to reports, this complication



Figure 1: A contrast-enhanced CT scan of the abdomen and pelvis showing intussusception of the intestinal loop, which was described as an “internal hernia” in the radiology report.



Figure 2: Reduction of the invaginated intestinal loop.

would have an incidence close to 0.64%.⁷ It can arise as a late complication in patients with a history of this type of surgery.⁸ Among the most frequent late complications of gastric bypass, internal hernia, ulcer, and anastomotic stenosis stand out. However, intussusception is so infrequent that most of the studies reporting late complications secondary to gastric bypass do not even mention it.⁹ In the case presented in this paper, intussusception occurred late, five years after having undergone bariatric surgery.

In terms of epidemiology, the preponderance of intussusception in women stands out, with a remarkably low incidence in the general post-bariatric surgery population. This pattern suggests a possible hormonal component or anatomical predisposition in women that could influence the development of this specific complication in the context of a gastric bypass.⁷ As stated in the literature, the case presented is a female patient, which could be explained by one of the abovementioned etiological reasons.

Intussusception in the adult population is infrequent and is usually related to an

intestinal tumor, inflammatory disease, and Meckel's diverticulum, among others.¹⁰ The etiology of intestinal intussusception after gastric bypass is uncertain. Some theories state that it could be related to post-procedure intestinal motility disorders or intra-abdominal trophic changes.⁸ Another theory is that the brace lines could act as a traction point,¹¹ or that excessive weight loss could decrease the traction of the mesos and leave the intestine more prone to this condition.¹² In the case presented, the etiological cause could be due to any of these reasons since the patient fulfills the characteristics of the three reasons presented.

Generally, post-gastric bypass intussusception occurs about entero-entero anastomosis and is characterized by its retrograde nature, which presents additional challenges in its diagnosis⁵ and management. This complication was just what happened to the patient here presented.

Diagnosis of post-gastric bypass intussusception can be challenging due to the nonspecific clinical presentation and the need for imaging tests to confirm the diagnosis. Recurrent abdominal symptoms, such as pain, nausea, and vomiting, can be attributed to various causes in post-bariatric surgery patients, making early identification of intussusception difficult. In this sense, the CT scan is a fundamental diagnostic tool for visualizing intestinal intussusception and guiding therapeutic planning.^{5,13} In the case presented, although a CT scan was performed, the report showed a different diagnosis. Hence, the usefulness of the CT scan, particularly in the case presented, is unclear.

In terms of treatment, surgery remains the mainstay to address post-gastric bypass intussusception. Multiple surgical strategies are available, from reduction of the intussusception to intestinal resection with a review of the anastomosis.⁵ The choice of surgical approach will depend mainly on the vitality of the tissue, and the presence of necrosis or perforation is decisive. The recommendation in a devitalized intestinal loop is resection of the involved segment.¹⁴ However, when the invaginated loop is found to be vital after

reduction, there are different management alternatives, standing out simple reduction, fixation of the intestinal loop, or intestinal resection. Although intestinal resection can be associated with lower recurrence rates, it is essential to carefully consider the risks and benefits of each therapeutic option in the specific clinical context of the patient.⁷ In the case presented, given the reduction of the invaginated loop and its vitality, it was decided to perform conservative management without intestinal resection or anastomosis. With this management, the patient evolved favorably. Given the above, it is important to consider the option of conservative management, if the necessary means are available to be able to re-intervene the patient in a timely manner in the event symptoms or signs suggesting a new complication appear.

CONCLUSIONS

Thin-loop intussusception in patients with a history of gastric bypass represents a significant clinical challenge, requiring careful consideration of the available therapeutic options. Understanding this complication and its appropriate management is essential to improve long-term outcomes in patients undergoing bariatric surgery.

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Correspondence:

Pascale Sallaberry-Schlesinger

E-mail: pssallaberry@miuandes.cl