

Intestinal intussusception in pregnant women after gastric bypass: case report

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ABSTRACT

Worldwide, it is estimated that approximately 634,897 people undergo bariatric procedures each year, with vertical gastrectomy and gastric bypass, representing 53.6% and 30%, respectively. Among operated patients, approximately half are women of reproductive age. In adults, intussusception is typically due to a pathological site in the intestine, which can be malignant in more than half of cases. Intestinal intussusception is rare in adults, representing 1 to 5% of mechanical intestinal obstructions. Intussusception in pregnant women after gastric bypass is a very rare pathology of unknown origin with high power of injury and injury to organs and systems. Its clinical manifestations are like acute obstructive abdomen, but in pregnant women it is difficult to make an early diagnosis. This case report presents a 38-year-old patient, a 22-week pregnant woman, with severe abdominal pain accompanied by vomiting in large quantities for 1 day, a history of gastric bypass for 4 years. The diagnosis of intestinal intussusception was possible after the seventh day of hospitalization with the aid of an image exam - MRI. Surgical treatment is indicated to correct the case. He developed septic shock requiring prolonged hospitalization in an ICU bed, being discharged after 27 days of hospitalization.

Keywords: Videolaparoscopy; Gestation; Gastric bypass; Intussusception.

INTRODUCTION

The growing demand and popularity of bariatric surgeries is not only due to obesity as an epidemic, but also to combat disease-related comorbidities, such as diabetes and hypertension¹. However, bariatric surgery is not free from complications. Bariatric surgery in recent decades has emerged as the most effective treatment for morbid obesity, it is able to provide weight loss, resolution or improvement of obesity complications in a consistent percentage of patients, improving the expectation and quality of life of these patients. In addition, technical advances and the increased experience of surgeons allowed the widespread use of minimally invasive technique for bariatric procedures, reduced postoperative time and morbidity and mortality².

Worldwide, it is estimated that approximately 634,897 people undergo bariatric procedures each year. Among the various obesity surgery

techniques, sleeve gastrectomy corresponds to 53.6% and gastric bypass 30%². Regarding distribution, it is considered that the number of male operated on is the same as female. However, when we think of women, almost all of them are of reproductive age¹.

The benefits of bariatric surgery in female patients of reproductive age include improved fertility and reduced risk of serious obstetric complications, such as pregnancy-induced hypertension, pre-eclampsia, gestational diabetes, macrosomia and cesarean section¹.

Pregnant women with a history of bariatric surgery should be considered a high-risk group, requiring special attention during prenatal care. In fact, this subset of patients is exposed to possible medical and surgical complications. Medical complications include micronutrient deficiencies, increased risk of prematurity and intestinal intussusception during pregnancy, as a surgical complication¹.

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In adults, intussusception is typically due to a pathological site in the intestine, such as a tumor, that acts as a fixed point in a previously free environment. Thus, through the physiological peristalsis of the small, the proximal loop ends up invaginating in this location³.

However, in some cases, intussusception can be classified by etiology as a benign lesion caused by polyps, Meckel's diverticulum or of an idiopathic character³. Regarding its location, it is classified as enteroenteric intestinal loops, when limited to the small intestine; ileocolic with pro-lapsed terminal ileum in the ascending colon; and colo-colic, which is limited to the large intestine³.

Intestinal intussusception is rare in adults, representing 1 to 5% of mechanical intestinal obstructions³. The highest incidence of intussusception is seen in patients with acquired immunodeficiency syndrome (AIDS). This is due to the high incidence of infectious and neoplastic bowel diseases in AIDS patients, such as lymphoid hyperplasia, Kaposi's sarcoma and non-Hodgkin's lymphoma. In children, it is most associated with Meckel's diverticulum¹.

In adults, intermittent abdominal pain is the most common presentation; however, patients may also have symptoms consistent with partial bowel obstruction, with nausea, vomiting, melena, weight loss, fever, and constipation. The clinical picture of a patient with intestinal intussusception is an acute obstructive abdomen³.

X-ray examination of the simple abdomen may show typical features of small bowel obstruction, with dilated intestinal loops, absence of air in the rectum location, "coin stack" sign and air-fluid level⁴.

The diagnosis, however, is usually made on an abdominal CT scan. The distended loop of bowel appears thickened because it represents two layers of bowel. A "target signal" can be seen in the sagittal view of the abdominal tomography, while in the axial or coronal view, the intussusception will appear as a sausage-shaped mass⁵.

In pregnant patients, the use of non-contrast-enhanced magnetic resonance imaging is preferred to avoid the risks of radiation to the patient's fetus, with sensitivity almost equal to that of abdominal tomography⁶. Definitive treatment consists of a laparoscopic or laparoscopic surgical approach.

In the initial approach to the patient, it may be necessary to use an open nasogastric tube to reduce the intragastric and intraluminal pressure of the intestinal loops with medications for analgesia and antiemetics, until an adequate surgical approach to the patient¹. The surgical technique consists of delicately degloving the intestinal loop over its own lumen, observing possible points of ischemic suffering in the intestinal wall compatible with necrosis. When there is ischemic wall suffering, an enterectomy must be performed at the obstructed point with necessary anastomosis in the residual intestinal loops, mechanical or manual².

Some patients with cases of intussusception in colonic loops may benefit from treatment with a transrectal opaque enema, thus not requiring a surgical approach. However, the success rate with this treatment has not been favorable, being a conduct little seen in practice³.

Although reducing intussusception is safe and effective, there is a significant risk of recurrence. Resection, end-to-end anastomosis, of the obstruction point seems to be effective as a means of treatment, evolving to a good prognosis in most cases¹.

CASE REPORT

Patient, female, 38 years old, pregnant at 22 weeks, previously healthy, admitted to the emergency room for pregnant women at Hospital Santa Rita de Maringá in Maringá/PR, with sudden abdominal pain in the upper abdomen region that started 1 day ago, radiated to the back associated with nausea. She presented an improvement in her pain after the use of intravenous morphine.

During the diagnostic investigation, a history of gastric bypass and cholecystectomy for 9 years, cesarean section and previous appendectomy was reported. No associated comorbidities. Laboratory and ultrasound examinations of the upper abdomen, during admission, were normal. Thus, the team opted for the patient's hospitalization for better investigation of abdominal pain. During hospitalization, an upper digestive endoscopy was requested after evolving with hematemesis, which showed bleeding in the upper gastrointestinal tract, but without a visible lesion,

with difficulty in progressing the endoscope due to previous gastric surgery.

In routine laboratory tests, he presented an increase in serum amylase greater than three times the serum value on the second day of hospitalization, when the diagnosis of severe acute pancreatitis was opened, requiring transfer to the intensive care unit bed.

With no improvement in abdominal pain on the fifth day of hospitalization and no improvement in laboratory tests, including amylase, magnetic resonance imaging was indicated with visualization of an obstructive point on imaging (Image 1). Despite the suggestive sign of intussusception, the team chose to maintain conservative treatment, considering fetal viability.

Image 1: "target signal" suggestive of intestinal intussusception.



However, on the seventh day of hospitalization, he developed hemodynamic instability, requiring the initiation of vasoactive drugs and orotracheal intubation to stabilize the condition.

Due to the maintenance of the severe clinical condition and high doses of vasoactive drugs, a CT scan of the total abdomen was chosen, which showed mechanical intestinal obstruction, and emergency laparotomy was indicated.

During surgery, intussusception of the common Roux-Y loop over the biliary loop (Image 2) was confirmed, with perforation of the excluded stomach. Surgical resection of the intussusception was necessary with the reconstruction of the intestinal transit by entero-enteral anastomosis and gastrostomy in an excluded stomach to reduce the pressure in the gastrointestinal tract.

Image 2: Anatomical part after surgical resection.



The patient evolved with expulsion of a dead fetus in the immediate postoperative period, inside the bed of the intensive care unit. It is necessary to maintain the use of vasoactive drugs due to great hemodynamic instability.

During hospitalization in the intensive care unit, he remained unstable for a long period of time, requiring prism dialysis to improve renal function and hemodynamic stability.

A new laparotomy was performed during hospitalization to wash the abdominal cavity and drain the abdominal abscess in the pelvic region. Where the new anastomoses remained intact without alterations. Maintaining postoperative support in an intensive care unit.

After 21 days of hospitalization in the intensive care unit bed, he was discharged to his room and discharged home on the 27th day of

hospitalization, in good general condition, only with a prescription for symptomatic medications. She has been monitored via an outpatient clinic since the seventh day of hospital discharge, with no new complaints since then.

DISCUSSION

The intestinal complication of obstructive acute abdomen that occurs after bypass surgery is usually due to intestinal loop adhesions, internal hernias or intussusception⁷ as shown in the case cited.

Only a few cases of acute obstructive abdomen after gastric bypass in pregnant patients have been reported in the literature. It suggests that increased intra-abdominal pressure asso-

ciated with sudden weight reduction contributes to a higher risk of complications, especially in the second and third trimesters of pregnancy⁸. It cannot be clearly said that pregnancy can increase the risk of intestinal intussusception, but a marked reduction in weight increases the chances of sprain and intestinal intussusception². Studies indicate that the highest incidence occurs 4 years after the surgical procedure¹, in the case reported here, the patient had a period of 9 years after gastric bypass surgery, corroborating the hypothesis.

With a gestational age of 22 weeks, the articles show an average age of 27.42 weeks, the case being presented early, but already within a gestational range in which the uterus increases intra-abdominal pressure².

Nausea and vomiting during pregnancy can often interfere with the diagnosis of intestinal intussusception, together with abdominal pain that is not specific to pregnancy, make it the threshold for suspicion of any complication of low bypass surgery².

In the diagnosis of intussusception, the exam of choice is tomography of the abdomen, but in the pregnant patient, it brings risks to the fetus, and thus the first test to be requested at MRI9 was the one performed in the patient's case. However, thinking about preserving the integrity of the fetus, it resulted in a delay in surgical treatment.

This delay in diagnosis exponentially increases the risk of fetal death. Studies show that a delay of 48 hours increases the rate of fetal death by 10%, whereas a delay of more than 48 hours in the intervention would reach a 50% probability of death¹⁰. In the case presented here, in addition to the delay in surgical exploration, the use of vasoactive drugs in high doses and sedatives due to orotracheal intubation was combined, with the outcome being the spontaneous abortion presented by the patient.

CONCLUSION

We conclude that intestinal intussusception in pregnant women after gastric bypass is a very rare pathology and that although it has

several elements that may contribute to its genesis, it remains considered of unknown origin, with high potential for injury and damage to organs and systems. Most of them are difficult to diagnose at first, as pregnancy itself presents signs and symptoms similar to those of acute obstructive abdomen, such as vomiting and diffuse abdominal pain, making the differential diagnosis between conservative and surgical pathology challenging.

The low incidence of the disease, associated with the difficulty in diagnosis, generated a deficiency in literary analyzes of case series, making the scientific production about the disease insufficient. Allied to these factors, the fact that the doctor always thinks about preserving the fetus, makes many surgical procedures to be postponed, bringing even greater injury to both the mother and the fetus. Thus, it is noted that the scientific description of one more case of intestinal intussusception in a post gastric pregnant woman can contribute to the wealth of scientific data about this pathology and, consequently, to the theoretical basis for clinical decision-making by students and professionals doctors, aiming at the best prognosis for the patient.

The study confirms the importance of guiding and emphasizing the risks and complications inherent after long-term gastric bypass, as complications in pregnant patients increase the risk of fetal and maternal death.

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