Retrograde intussusception causing small bowel obstruction in a 35 year old Female patient following a Roux en Y Bypass. Case report

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ARTICLE INFO

INTRODUCTION: Intestinal intussusception is an uncommon entity when preceded by Roux en Y gastric bypass. Retrograde intussusception is an enigmatic phenomenon characterized by reversely intussuscepted intestinal loop that may involve any piece of the Roux en Y limbs. Computed Tomography is gold standard for diagnosis. Surgical management is highly debatable.

CASE PRESENTATION: A 35 years old female known for morbid obesity, post roux en Y gastric bypass since 5 years with 100 % excess weight loss presenting for on-off episodes of small bowel obstruction symptoms. She was diagnosed laparoscopically for retrograde intussusception that was reduced easily with closure of Peterson’s pouch due to high suspicion of an internal hernia. She did well postoperatively and followed up adequately with no recurrence of her symptoms.

CONCLUSION: Retrograde intussusception remains an interesting uncommon phenomenon in the horizon of the roux en Y gastric bypass surgeries. Several surgical options were discussed in the last 12 years and they are still debatable.

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1. Introduction

Classically, intussusception is the telescoping of the intussusceptum into the intussusciptum, it may involve any piece of the human intestine [1]. Small intestinal intussusception post gastrectomy or bypass was first described by Agha in 1986, and was classified as an uncommon entity, but with the increased number of the obesity and metabolic surgeries this phenomenon has been more encountered [2]. Among all the intestinal intussusceptions in adults which are usually due to organic causes, retrograde intussusception (RI) occurs in a reversed manner enigmatically. With an incidence of 0.07—0.6 %, RI has been reported in less than 100 times until 2016 in patient post Roux en Y Gastric Bypass. It is predominantly seen in females (80—90 %) at their middle age (4th—5th decade). Symptoms usually are nonspecific, and they differ in both severity and acuity [3]. Computed Tomography is the gold standard for diagnosing all types of intestinal intussusception, while surgery remains more confirmative. Surgical techniques are highly debatable in management of RI post Roux en Y gastric Bypass as by Simper et al. [4]. Herein we present a case of 35 years old previously obese female patient who undergone a roux en Y gastric bypass and presented 5 years later for RI.

This case was reported in Line with SCARE criteria [5].

2. Case description

A case of a 35 y.o female known for a history of morbid obesity and operated 5 years ago with laparoscopic Roux-en-Y gastric bypass (with antecolic gastro-jejunal anastomosis) with 100 % excess weight loss (BMI 46 into 28).

She presented to the emergency room for intermittent abdominal pain and distension aggravated by a large meal and nausea since 2 h. There was no other associated signs. Physical exam showed a normal habitus female, mildly distended soft abdomen, mild increase in tympanism and positive bowel sounds. Vital signs were stable. Lab tests were demanded showing normal Hemoglobin 13.4 mg/dL, no left shifts, normal creatinine and electrolytes panel. Conservative management (clear liquid diet) and symptomatic treatment (anti-emetics and anti-spasmotics) were given in the emergency room and the patient felt better.

https://doi.org/10.1016/j.ijscr.2021.01.095
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Computed Tomography scan of abdomen and pelvis with IV contrast was requested showing no significant findings.

3 months later, the same picture is repeated, associated with obstipation; thus the patient was admitted to the regular floor after having again laboratory tests values within normal limits. Also upon symptomatic treatment her episode was relieved. She was kept NPO and been prepared for the operation for the next day. She also added that similar self-limited episodes have occurred during these 3 months.

During exploratory laparoscopy Exploration of the abdomen started by running the bowels distally from the ileocecal valve into the roux en Y anastomotic sites. A retrograde intussusception about 7 cm long was seen on the efferent limb (roux limb) around 40 cm away of the jejunoejunal anastomosis (Fig. 1) with no surrounding inflammatory tissue. It was reduced (Fig. 2) showing no bowel suffering. Exploration of the Peterson pouch showed no internal hernia yet it was sutured by prolene 3.0. The roux en Y anastomotic signs were seen normal.

The patient had an uneventful postoperative stay, passed flatus on day 2 postoperation, and was discharged on day 4 on soft diet. Follow up after 3 and 6 months revealed no recurrence of her symptoms.

3. Discussion

RI is a reversed intussusception that is still relatively uncommon. It may be under-reported due to the possibility of self-reduction [6]. Small bowel obstruction post Roux en Y gastric bypass usually is due to either internal hernia that is more common in laparoscopic approach (incidence 3.1%) or adhesive band that is more common in open approach, but it is very rare to be due to RI [7,8]. Symptoms are characterized by episodes of diffuse abdominal pain, distention along with constipation/obstipation and nausea/vomiting. Episodes may be acute or intermittent and chronic. Timing of the obstructive symptoms are highly variable and depend on the cause of the obstruction [6,8]. In small bowel obstruction due to intussusception, the triad of currant jelly stools, abdominal pain and palpable mass is rarely seen in adults [3]. RI can involve any of the limbs of the Roux en Y gastric bypass mostly at the Roux (common) limb. Several hypothesis that may be lying behind this phenomenon are posed but correct answer was still obscure. Staple line, sutures, and focal hyperplasia can act as leadpoints and may be the causative factors. Even decreased mesenteric fat can be incorporated into possible factors. According to some authors, Roux Stasis Syndrome is the most rational factor, it is defined as poor gas-
tric emptying, abdominal pain and nausea vomiting that are elicited postprandial. All patients with roux en Y gastric bypass are at risk of this syndrome. Ectopic pacing leads to messy contractions and dysmotility resulting in backwards movements [4,6].

Diagnosis of small bowel obstruction post Roux en Y gastric bypass is dependent on several modalities. Upper gastrointestinal series is the best initial mean for diagnosis. Yet, the Computed Tomography (CT) scan of abdomen and pelvis with contrast is more accurate. A negative CT scan doesn't eliminate the diagnosis, and the necessity of an early exploratory laparoscopic surgery for both diagnosis and treatment is indicated [3,8].

The state of the intussuscepted intestine determines the plan of treatment, where simple reduction with or without plication is reasonable if there is no necrotic tissue [3]. According to Simper et al., resection with revision of the anastomosis has been the gold standard, still it carries recurrences, so plication is added to some patients with better results. An alternative treatment is the uncut roux en Y, by creating an omega loop gastrojejunostomy with a jejunojejunostomy between the afferent and efferent loops [4]. Furthermore, an isolated Roux limb showed successful results in animal trials, where the jejunum is divided distal to the jejunoj

4. Conclusion

RI is a mysterious pathophysiology that is still uncommonly present post Roux en Y gastric bypass, but reported cases are increasing in the era of bariatric surgeries. Imaging diagnosis by CT scan is possible, but exploratory laparoscopy is a more confirmatory option. The most adequate surgical treatment technique is still debatable.

Conflicts of interest

This article has no conflict of interest with any parties.

Sources of funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors

Ethical approval

The study type is exempt from ethical approval

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Writing the paper, Study Concept: Jad J Terro, Etienne El-Helou. Data collection, Study Concept: Bilal El-Chamaa, Najib El-Atrash. Supervision: Elham El-Darazi, Elias El-Khoury.

Registration of research studies

Not applicable.

Guarantor

Dr Elias El-Khoury.

Provenance and peer review

Not commissioned, externally peer reviewed.

Acknowledgements

We would like to thank the Doctors and staff of our institute, and the members of our University for their continuous support and guidance.

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