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Blood bezoar causing obstruction after laparoscopic Roux-en-Y gastric bypass☆

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ABSTRACT

INTRODUCTION: Bowel obstruction is a known complication after bariatric surgery especially Roux-en-Y gastric bypass. The known etiologies include internal hernia, jejunojejunostomy stricture, ileus, intussusceptions, superior mesenteric artery syndrome, incarcerated port site hernia, and adhesions. Blood bezoar is a rare cause of small intestinal obstruction after Roux-en-Y gastric bypass.
PRESENTATION OF CASE: We are going to present two cases of small bowel obstruction after Roux-en-Y gastric bypass due to blood bezoar.
DISCUSSION: Blood clot as the etiology of small bowel obstruction after Roux-en-Y gastric bypass is an unusual event. In the presence of postoperative small intestinal obstruction an obstructive blood bezoar should be in differential diagnosis. As any other etiology of postoperative obstruction it should be treated immediately to prevent its adverse lethal complications.
CONCLUSION: The best way for prevention of blood bezoar is prevention of bleeding at staple line and doing hemostasis at stapler line.

1. Introduction

With increasing the number of laparoscopic Roux-en-Y gastric bypass we may increasingly face with its complications. One of these complications is gastric outlet and bowel obstruction.[1–4] It usually present with epigastric colicky abdominal pain, vomiting and obstipation.[5–7] In this situation bowel obstruction should be considered in differential diagnosis. The etiologies of bowel obstruction are adhesions, internal hernia, incarcerated port site hernia, stenosis of anastomosis, intussuception, superior mesenteric artery syndrome and rarely blood bezoar in the distal of small intestine.[3,10,11] It may be complicated with disruption of anastomotic line and peritonitis.[9]

We describe two cases of small bowel obstruction after laparoscopic Roux-en-Y gastric bypass.

2. Presentation of case

A 34 years old woman underwent laparoscopic antecolic antegastric Roux-en-Y gastric bypass. Her BMI was 43 kg/m^2 without co morbidities. Gastric pouch made with 3 blue cartridges. Gastrojejunostomy were done with blue 45 mm endo GIA stapler. Jejunojejunostomy was done with white 60 mm endo GIA stapler. The operation was without problem. The day after operation patient underwent upper GI gastrografin study. The day after that she complicated with colicky abdominal pain, vomiting and obstipation. Plain abdominal X-rays showed dilated small intestine without gas shadow in the large bowel. She underwent conservative treatment. In the 6th day after operation she became febrile and complained of abdominal pain and tenderness. Abdomen explored through a midline incision. On exploration abdominal secretions, small intestine dilatation and jejunojenunostomy leakage was determined. A transitional zone with a solid mass including a hard blood bezoar was palpated in the distal of ileum. The mass including dried clot extracted through anastomotic hole and anastomosis repaired (Fig. 1).

The second case was a 45 years old woman underwent laparoscopic antecolic antegastric Roux-en-Y gastric bypass. After upper GI gastograffin study in the day after operation she complained epigastric colicky abdominal pain, vomiting and abdominal distension. After some watery stool passage she became obstipated. Plain abdominal X-rays showed distended small bowel obstruction.

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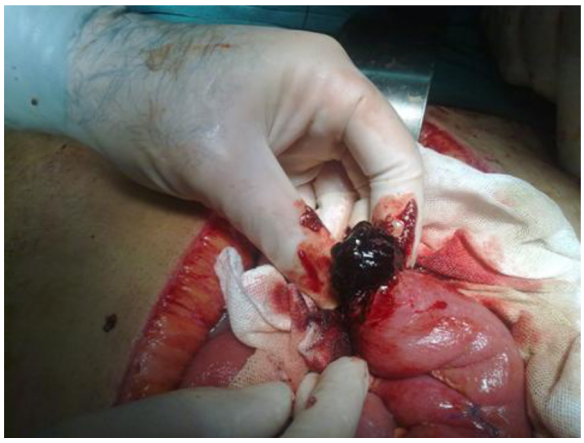

Fig. 1. Abdominal exploration: a transitional zone with a solid mass including a hard blood bezoar in the distal of ileum.

In laparoscopic exploration in the 4th postoperative day distended bowel loop was prominent. With retrograde exploration of collapsed small bowel from ileocecal area we saw a transition zone, dilated proximal bowel loop with a firm intraluminal mass. By grasping and pressing the mass with bowel grasper the mass disrupted and pushed distally. Patient defecated and became asymptomatic. After defecation we saw some pieces of a relatively firm clot.

3. Discussion

Blood clot as the etiology of small bowel obstruction after antecolic antegastric Roux-en-Y gastric bypass is an unusual event. We usually use 45–3.5 and 60–3.5 endo GIA stapler for pouch construction and gastrojejunostomy and 60–2.5 endo GIA stapler for jejunojejunostomy. Sometimes we see bleeding from staple line. In obvious external bleeding we usually use energy device, suture or clips for hemostasis. Bleeding from staple line in gastrojejunostomy or jejunojejunostomy is not visible. Perioperative administration of heparin may aggravate bleeding. Our cases typically became symptomatic after gastrografin study. We think hyperperistaltic effect of gastrografin on intraluminal blood accumulate and compress them to form a firm to hard bezoar. In our series of more than 430 LGB 2 cases of bezoar obstruction were detected. Other publications reported one in 796,[1] 5 in 825[8] and one in 115 LGB.[13] The symptoms are mechanical obstruction of small bowel including colicky abdominal pain, vomiting and obstipation. In the cases of closed loop obstruction and gangrene fever, abdominal tenderness and leukocytosis may be added. Bezoar obstruction and other etiologies of obstruction such as internal hernia, quinking of bowel at jejunojejunostomy and port sit incarcerated hernia predispose to close loop obstruction.[12]

Quick diagnosis and treatment is necessary. Upper GI series and CT scan are the best diagnostic modality for detecting intraluminal clot.[14] Although clinical signs are very indicative for close loop obstruction, CT scan is also an important tool for detecting close loop obstruction. Early surgical intervention is advocated in most publications. Complete revision of anastomosis, longitudinal enterotomy and thrombectomy of intestine are various ways for thrombectomy.[8,13] If there is an obstructive clot in the stomach it can be removed with endoscopy.[4,13]

About the effect of gastrografin on obstruction there is some proved evidences about the therapeutic role of gastrografin on bowel obstruction.[15]

4. Conclusion

Blood bezoar is a rare etiology for postoperative small bowel obstruction after laparoscopic Roux-en-Y gastric bypass. In the presence of postoperative small intestinal obstruction an obstructive blood bezoar should be in differential diagnosis. As any other etiology of postoperative obstruction it should be treated immediately to prevent its adverse lethal complications. NG tube will only decompress the alimentary limb and the biliopancreatic limb will not decompress.

The best way for prevention of blood bezoar is prevention of bleeding at staple line and doing hemostasis at stapler line.

Conflict of interest statement

None declared.

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None declared.

Ethical approval

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 contributions

Dr. Jangjoo, Dr. Pazouki, Dr. Khalaj: study design.
Dr. Pakaneh, Dr. Pazouki Dr. Jangjoo: data collections.
Dr. Jangjoo, Dr. Tamannaie: writing.

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