



## Ileal Bezoar after Roux-en-Y Gastric Bypass for Morbid Obesity: A Case Report

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### Abstract

Bowel obstruction is a known complication of Roux-en-Y gastric bypass. Bezoar is an unusual cause. We report a case of a 53 year-old female who developed small bowel obstruction secondary to a phytobezoar at the distal ileum one year after the patient underwent a Roux-en-Y gastric bypass for morbid obesity. A computed tomography scan was a very useful method for making the diagnosis. The patient had successful minimally invasive surgical treatment.

**Keywords:** Bezoars; Intestinal obstruction; Bariatric surgery

### Introduction

Bariatric Surgery is the most effective method for achieving persistent weight loss and reversing obesity-related co morbidities in severe obese patients. Many bariatric procedures are available for management of these high-risk patients and Roux-en-Y gastric (RYGB) by-pass is one of the most commonly performed. In RYGB, the upper part of the stomach is transected; thus, a very small gastric pouch is created. This gastric pouch is anastomosed to a Roux-en-Y jejunal limb, bypassing the remaining stomach, duodenum and a small proximal jejunal segment. As a result, the RYGB limits food intake and induces some nutrient malabsorption [1].

With the increasing frequency of bariatric surgery, we expect to be called upon more often to deal with the complications of these procedures. Small bowel obstruction (SBO) is one of them. The incidence of small bowel obstructions after RYGB ranges from 1% to 8% [2]. Phytobezoar is a rare cause of SBO after RYGB but are the most common foreign bodies of the gastrointestinal tract [3]. More than one-half of the patients who develop phytobezoars had previous gastric surgery. Some gastric and jejunal bezoars have already be reported in the literature [2,4,5] but a distal ileal bezoar has not been described. We aimed to offer a rare case of intestinal obstruction caused by bezoar (in terminal ileum), after Roux-en-Y gastric bypass surgery.

### Case Report

A 53 year-old female presented with new onset of abdominal pain, nausea and vomiting for the last 24 hours. One year ago, she was submitted to a laparoscopic Roux-en-Y gastric bypass for morbid obesity (BMI of 41Kg/m<sup>2</sup>). Her BMI decreased to 24Kg/m<sup>2</sup> with a 100% excess weight loss.

Her vital signs were within normal limits and the laboratory investigations on admission were unremarkable. An abdominal computed tomography (CT) scan showed dilatation of the small bowel with obstruction at distal ileum due to a intraluminal mottled mass (Figure 1). When her alimentary history was questioned in detail, she declared that she ate some oranges one day before.

She was taken to the operating room for laparoscopic exploration. A solid obstructing intraluminal mass was found close to the ileocecal valve suggesting a bezoar (Figure 2). In order to avoid an enterotomy we decided to perform a 3 to 4 cm abdominal incision on the right lower abdominal wall. We have introduced two fingers into the abdominal cavity and pushed the bezoar through the ileocecal valve into the cecum.

The patient had an uneventful recovery. She tolerated liquids on postoperative day one and was discharged home on postoperative day two. She went to the office nine days after surgery in very good conditions.

### Discussion

Bezoars are retained concretions of indigestible materials in the gastrointestinal tract. Bezoars are typically grouped into 1 of 4 types according to their composition: phytobezoars (which are

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**Figure 1:** Computed tomography scan of abdomen shows an intraluminal mottled mass into distal ileum.



**Figure 2:** Laparoscopic view of the intraluminal bezoar.

composed of indigestible food particles that are found in vegetable or fruit fibers), trichobezoars (which are composed of a conglomeration of hair and food particles), lactobezoars (which are composed of milk protein) and pharmacobezoars (which are concretions of various medications) [6]. Phytobezoars are the most common type of bezoars, accounting for approximately 40% of all reported cases.

The formation of bezoars can occur in individuals with normal gastrointestinal (GI) physiology and anatomy. However, patients with altered GI anatomy and/or motility are at an increased risk for the development of bezoars. A total of 71 to 83% of bezoar cases has a history of gastric surgery [4], including bariatric surgery. Poor mastication and the passage of large-diameter solid matter from the stomach into the small intestine can predispose to an intestinal phytobezoars [5]. In addition, dietary factors including an excessive consumption of oranges, persimmons and some vegetables may be the cause of a bezoar formation [7].

The incidence of SBO after RYGB ranges from 1% to 8% [2]. Internal hernias are the most common cause followed by adhesions. Intussusceptions and bezoars are rare etiologies cause <1% of SBO [8]. Some articles suggest CT imaging is a useful method for making the diagnosis of bezoar associated with small-bowel obstruction [9]. An intraluminal mass of a mottled appearance is usually seen at the

transition zone between dilated and collapsed small-bowel loops. This was the CT finding in our patient.

Gastric bezoars can be usually managed without surgery. Lavage or dissolution, endoscopic fragmentation and/or retrieval are the main techniques. Surgical removal should be considered in patients who one or more of these methods have failed. Small-bowel bezoars are usually not amenable to conservative or endoscopic treatments and require a surgical intervention. Laparotomy is the traditional approach but laparoscopic approach can be considered. Various studies have reported laparoscopic management of intestinal obstructions with the improvement of laparoscopic skills [10]. However, gentle manipulation of the distended intestine and open technique to place the first trocar are some of the recommendations to avoid damage to the distended bowel.

Enterotomy and bezoar removal is usually the choice. However, fragmentation and flushing into the cecum can be alternative options. In order to avoid peritoneal contamination and due to the position of the bezoar close to the cecal valve, we have decided to push the bezoar through the ileocecal valve into the cecum with good result.

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