Case Report

Retrograde Intussusception following Roux-en-Y Gastric Bypass

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A case of retrograde intussusception is presented occurring >1 year following a Roux-en-Y gastric bypass (RYGBP). Presentation may be confusing and lead to a serious delay in diagnosis. Review of the literature shows most intussusceptions following RYGBP are retrograde, and most, if not all, appear to originate in the proximal common channel, as ours clearly did. The average excess body weight loss in these patients is much higher than expected, adding evidence that a dysmotility disorder is involved. A hypothesis is presented regarding the mechanism involved in these retrograde intussusceptions.

Key words: Morbid obesity, bariatric surgery, gastric bypass, Roux-en-Y, retrograde intussusception, small bowel

Introduction

Small bowel intussusception in an adult is responsible for only about 1% of small bowel obstructions and 90% of the time has been associated with a definable bowel lesion. Most intussusceptions are antegrade, i.e. the proximal small intestine (intussusceptum) is drawn into the distal small intestine (intussuscipiens) by a bowel lesion acting as a “lead point” to which the intussusceptum is attached. With Roux-en-Y gastric bypass (RYGBP), the intussusceptions are more often retrograde and are not associated with a bowel lesion or lead point. With the exponential increase of RYGBPs being performed in the United States, it is important that this entity be diagnosed early in its course.

Symptoms and plain abdominal x-rays may be misleading, and hence lead to delayed diagnosis and catastrophe. The following is a case report.

Case Report

A 48-year-old nurse 1½ years following a laparoscopic RYGBP for morbid obesity was sent home from the emergency room (ER) with a diagnosis of influenza as cause of a 20-hour history of severe, cramping and steady mid-abdominal pain and nausea with wretching. Laboratory tests including a complete blood count, metabolic profile, and amylase were normal except for a white blood cell count (WBC) of 12,900. Abdominal roentgenograms were not obtained.

The patient returned to the ER 3½ hours later with the same symptoms and hematemesis. Vital signs were stable, but her WBC had increased to 17,500 with a shift to the left. Pertinent physical findings were generalized abdominal tenderness without peritoneal irritation. Bowel sounds were reduced. Computerized axial tomography (CT) of the abdomen was obtained, and pertinent findings are shown in Figures 1 and 2. Figure 1 shows a dilated excluded stomach consistent with an obstructed bilipancreatic limb. Figure 2 show a “target” sign consistent with an intussusception. Figure 3 shows findings at laparotomy. All of the intussusception occurred within the common channel distal to the enteroroeostomy which itself was only secondarily involved and did not act as the lead point because the intussusceptum was going through the anastomosis and was not a part of it. Note the intussusceptum...
The intussusception was able to be reduced, hence allowing a resection of the reduced intussusception which consisted entirely of about 25 cm of common channel. The proximal end of the resection was about 2.5 cm distal to the enteroenterostomy. No lead point was present in the resected specimen. An end-to-end anastomosis was performed. The internal hernia identified in Figure 3 was closed as well. The dilated excluded stomach and biliopancreatic limb were completely decompressed by manually threading a nasogastric tube into the biliopancreatic limb and compressing the fluid out of the stomach and biliopancreatic limb, thus avoiding a gastrostomy tube. The patient subsequently did well and was discharged on the 3rd postoperative day.

**Discussion**

More than a dozen intussusceptions following RYGBP have now been reported in the literature with some interesting common characteristics of the retrograde variety. First, where weight loss in these patients was mentioned (9 patients including ours), it was dramatic. One series of four patients showed a 90 to 104.5% excess weight loss (EWL), and our patient had >100% EWL to a BMI of 19.