Hepatobiliary scintigraphy as a diagnostic modality for gastroparesis of the bypassed stomach after gastric bypass for morbid obesity.

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Case Report

Hepatobiliary Scintigraphy as a Diagnostic Modality for Gastroparesis of the Bypassed Stomach after Gastric Bypass for Morbid Obesity

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After Roux-en-Y gastric bypass (RYGBP), the excluded gastric remnant represents a challenge for the surgeon. Many diseases are reported to take place in that remnant, such as cancer, gastritis, and ulcer. On the other hand, diagnosing these pathological changes requires invasive intervention. We report the use of a noninvasive study to diagnose pathology in the bypassed stomach.

Key words: Morbid obesity, obesity surgery, Roux-en-Y gastric bypass, gastroparesis, HIDA scan

Introduction

Gastroparesis of the excluded stomach after Roux-en-Y gastric bypass (RYGBP) has been reported previously. Few imaging modalities have been used to diagnose gastroparesis in these patients. We describe the use of the hepatobiliary iminodiacetic acid (HIDA) scan in diagnosing gastroparesis of the bypassed stomach.

Case Report

A 25-year-old female with a past medical history of depression and morbid obesity (BMI 45) underwent an uneventful laparoscopic RYGBP. She had lost 91 kg in 2 years by the time she delivered her fourth child. One month later, she underwent laparoscopic cholecystectomy for cholecystitis. Over the course of the next year, the patient was admitted to the hospital a few times for vague recurrent epigastric abdominal pain and nausea with a negative work-up including abdominal CT scans.

Eventually, she was admitted for severe abdominal pain, nausea, and bloating. CT of the abdomen showed volvulus of a loop of small bowel. The patient underwent diagnostic laparoscopy where she was found to have a herniation through the mesenteric defect of the jejunojejunostomy, which was repaired. Two weeks after this surgery, she started complaining of recurrent postprandial left upper quadrant abdominal pain, bloating, and diarrhea. CT of the abdomen showed a mildly distended bypassed stomach. To evaluate the bypassed stomach, a hepatobiliary scintigraphy (Figure 1, Left and Right) was obtained which showed normal duodenum (D) and biliary tree (B), as well as reflux of the technetium Tc99m into an atonic stomach (S). Although the technetium Tc99m passed into the distal small bowel within 2 hours, significant isotope activity was still detected in the bypassed stomach which is diagnostic for gastroparesis. Because of her poor response to prokinetic agents, ultrasound-guided percutanous gastrostomy was performed to decompress the bypassed stomach, with good clinical response.

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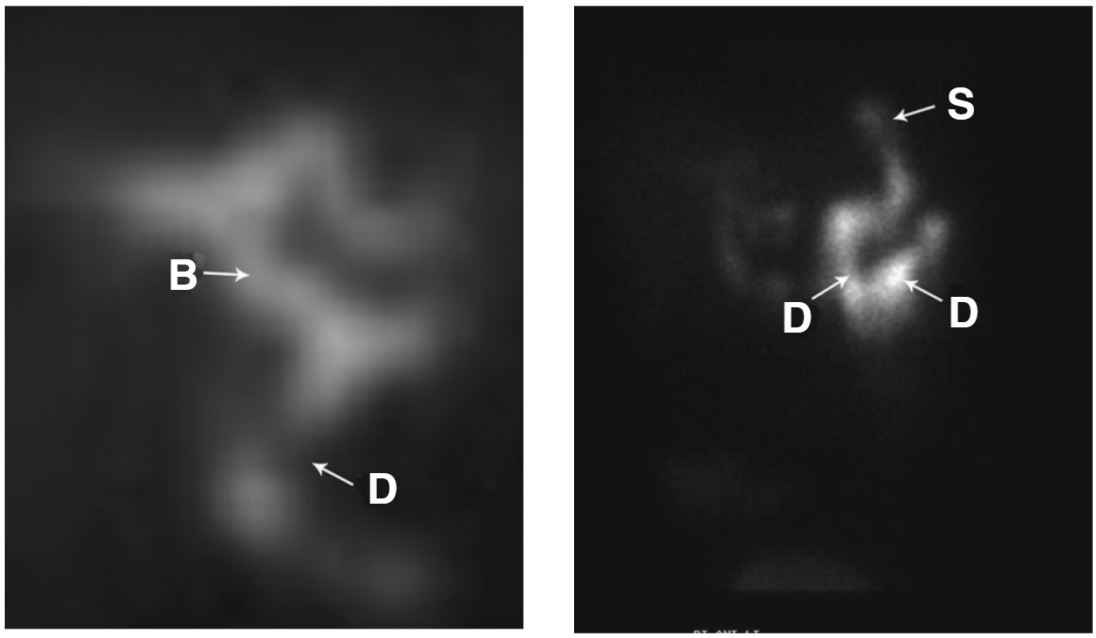

Figure 1. Hepatobiliary scintigraphy showed normal duodenum (D) and biliary tree (B) and reflux of the technetium Tc99m into an atonic bypassed stomach (S).

The gastrostomy tube was removed after 1 month; 2 months later the patient presented with obstructive symptoms for which she needed laparoscopic lysis of adhesions and was found to have an internal hernia through the transverse mesocolon, which was repaired. Now the patient is asymptomatic. Her BMI is 21.5 at 42 months postoperatively.

Discussion

Evaluating the bypassed stomach after RYGBP poses a dilemma. Esophagogastroduodenoscopy, upper GI series or gastric emptying scintigraphy cannot be utilized to evaluate the bypassed stomach unless performed after gastrostomy. Abdominal CT scan and MRI are used to rule out anatomic pathology, but are non-diagnostic for a functional disorder. Muthukrishnan et al[1] used hepatobiliary scintigraphy to diagnose afferent loop syndrome. Sivelli and colleagues[2] reported their experience and concluded that hepatobiliary scintigraphy can aid in the differential diagnosis of afferent loop syndrome and other similar conditions. Hepatobiliary scintigraphy is a noninvasive dynamic study which can evaluate both functional gastroparesis and anatomic obstruction and leak pathology of the biliopancreatic limb after RYGBP. We believe that it is as beneficial in this patient population as in patients with afferent loop syndrome.

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