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CASE REPORT

Duodenal Varices: A Rare Cause of Bleeding in a Bariatric Patient

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We report a rare but potentially fatal complication of duodenal variceal bleeding in a patient status postsleeve gastrectomy. A 52-year-old woman with a history of sleeve gastrectomy presented with melena. Upper gastrointestinal endoscopy revealed bleeding varices in the duodenum that was clipped. After being referred to our institution for further management, CT scans were re-reviewed and revealed large varices in the fourth/fifth segment of the duodenum and proximal jejunum. The patient was referred to surgery. This case highlighted the potential ectopic variceal bleeding after bariatric surgery and calls for detailed examination and open mind when managing postbariatric gastrointestinal bleeders.

Introduction

Laparoscopic sleeve gastrectomy is a popular weight loss procedure in the United States. The common complications include abdominal pain, nausea, vomiting, marginal ulcer, hemorrhage, postoperative leaks, strictures, gastroesophageal reflux, nutritional deficiencies, and rarely portomesenteric vein thrombosis. Here, we report a rare complication of gastric sleeve procedure: gastrointestinal bleeding due to duodenal varices.

Case report

A 52-year-old woman presented to an outside facility with 3 episodes of melena followed by syncope. Medical and surgical history was significant for morbid obesity (body mass index-41 kg/m2), gastric sleeve surgery, and sleep apnea. She had right knee arthroscopy 10 days ago and was on ibuprofen 800 mg 3 times daily and aspirin 325 mg twice daily. Vital signs: Temperature 98, heart rate 98, respiratory rate 18, blood pressure 110/84. Physical examination: scars in the epigastric area, tenderness in suprapubic and right lower quadrant area without a rebound. Laboratory results: Hemoglobin 7.3, down from 9.6 the day before and her baseline was 14. White blood cells and differentials, platelets, electrolytes, and liver enzymes were within normal limits. Her blood urea nitrogen was 45 and creatine 0.6. CT abdomen and pelvis with contrast was read locally and reported no liver cirrhosis and was not contributary. She received 1 unit of packet red blood cells. Endoscopic gastroduodenoscopy revealed scant amount of blood emanating from the pylorus into the stomach. Varices were noted at the junction of the second and third part of the duodenum with a small cherry-red spot from which blood was oozing intermittently. The varix was treated with epinephrine injection and hemoclips successfully. Octreotide and pantoprazole were started, and she was referred to us for further evaluation by interventional radiology. CT scan was re-reviewed by our interventional radiologist who reported large varices in the third and fourth segment of duodenal and proximal jejunum and splenic vein thrombosis. This case was deemed not amenable to interventional radiology intervention and she was referred to surgery.

Discussion

Duodenal variceal bleeding is an unusual cause of upper gastrointestinal bleeding which accounts for 0.4% of all cases.[1] Duodenal varices are usually seen in patients with cirrhosis or portal hypertension. This is the first case to our knowledge that duodenal varices develop after bariatric surgery.

Generally, the bulb of the duodenum is drained by prepyloric vein into the portal vein. The rest of the duodenum is drained by the superior pancreaticoduodenal veins to the portal vein and inferior pancreaticoduodenal vein to the superior mesenteric vein.[2,3] In cirrhotic patients, varices are commonly seen in the descending or transverse parts of the duodenum while in portal vein obstruction, duodenal varices are mainly in the duodenal bulb[4,5]. In our patient, she developed splenic vein thrombosis after bariatric surgery. This is a rare complication that most commonly occurs after sleeve gastrectomy (78.9%) within the first month after surgery (88.9%) with the portal vein being the most affected vessel (41.5%).[6] It has been hypothesized that the thermal effect on

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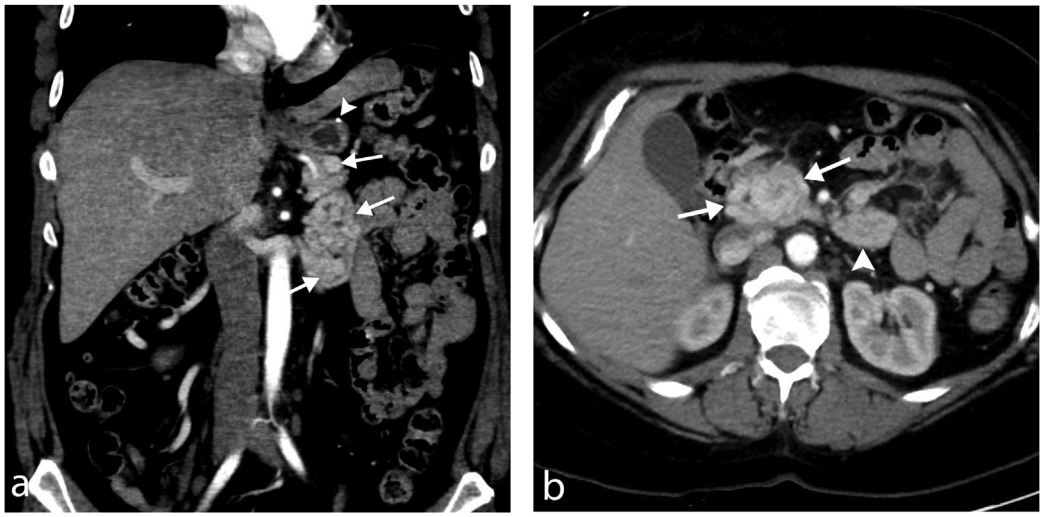

Figure. Coronal (A) and axial (B) images from CT of the abdomen and pelvis performed with intravenous contrast. Coronal image (A) shows numerous large varices throughout the distal third and fourth segments of the duodenum (arrows). Note surgical suture from sleeve gastrectomy (arrowhead). Axial image (B) shows large varices throughout the pancreatic head and second/third duodenal (arrows) and third/fourth duodenal segments (arrowhead).

the short gastric vessels and gastro-epiploic vessels during the surgery may play a role in the development of thrombosis.[7] In these patients, since the short gastric vein has been compromised during the sleeve surgery, other collaterals may develop. Splenic collateral venous drainage was facilitated by hypertrophied pancreaticoduodenal veins and numerous branch collaterals involving the pancreas and duodenum throughout their lengths and ultimately draining to the main portal vein (Figure).

Duodenal variceal bleeding has a mortality of 40% and a poor prognosis. However, the diagnosis of duodenal varices as the source of bleeding requires a high index of suspicion. Careful inspection of all portions of the duodenum is required. Endoscopic ultrasound has been shown to be more sensitive than conventional endoscopy.[8,9] Additionally, due to its rarity, there are no specific guidelines for the management of ectopic variceal bleeding. Current treatment methods include medical management, surgical interventions, endoscopic band ligation, endoscopic sclerotherapy, percutaneous transhepatic embolization, and transjugular intrahepatic portosystemic shunt with varied outcomes. Surgical management is less frequently used due to high mortality and morbidity. The optimal treatment depends on the location, size, patient hemodynamic stability, and the varices decompression pathways.

This case highlighted the potential ectopic variceal bleeding after bariatric surgery and calls for detailed examination and an open mind when managing postbariatric gastrointestinal bleeders.

Duodenal variceal bleeding is unusual but potentially fatal cause of upper gastrointestinal bleeding in postbariatric patients.

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The corresponding author, on behalf of all authors, jointly and severally, certifies that their institution has approved the protocol for any investigation involving humans or animals and that all experimentation was conducted in conformity with ethical and humane principles of research. Informed consent was obtained from the patient during an outpatient visit and was again obtained telephonically.

Reporting Guidelines:
Not applicable for this article type.