



A Rare Case of Upper Gastrointestinal Bleed in a Patient with Colonic Interposition

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Abstract

We report a case of upper gastrointestinal bleed originating in a colonic graft. An 82-year-old man presented to the emergency department with sudden-onset hematochezia and symptomatic anemia. He had undergone colonic interposition graft 16 years ago for esophageal stenosis and dilated esophagus. Endoscopy demonstrated a distal pigmented ulcer just proximal to the colo-gastric anastomosis and diverticulosis.

Introduction

Colonic interposition graft has been widely used for esophageal replacement after esophagectomy since the 1900s. Even though gastric pull-up and jejunal grafts are favored, colonic interposition graft still remains an option in patients in whom these procedures are not possible due to anatomic constrictions [1]. The argument in favor of using the colon was that it allowed for preservation of the stomach as the food reservoir, easy food bolus passage given the colon's large diameter, alleged resistance to gastric secretions, resumption of peristalsis postoperatively, and surgical feasibility with a readily available vascular supply from either the left or middle colic arteries [2-8].

Several complications of colonic interposition have been described in the literature before. Despite its vascular supply, ischemia of the cervical anastomosis is the most common complication, along with anastomotic leaks and strictures [9,10]. Although hemorrhage has been reported, cases described are related to fistulous tract formation to vascular structures [11]. Complications such as diverticular bleed or ulceration of the graft have been rarely described. We describe the clinical presentation and endoscopic results of a patient with both these findings.

Case Presentation

The patient is an 82-year-old male with a history of Nissen fundoplication, esophagectomy with right colonic interposition graft 16 years prior for stenosis at the gastroesophageal junction with dilated esophagus, pyloroplasty for gastroparesis with recent admission for deep vein thrombus of the upper extremity on Rivaroxaban. He presented to an outside hospital with acute-onset hematochezia and syncope and found to have anemia and hypotension. He was transfused one unit of packed red blood cells, given intravenous fluids, and transferred to our facility for further management. On arrival, his vitals were within normal limits, hemoglobin was 9.4 g/dl, hematocrit 27.9%, blood urea nitrogen 35 mg/dl, and creatinine 0.73 mg/dl. He had a Computed Tomography angiography abdomen and pelvis performed in the emergency department that showed thickening and hyperemia of jejunum with no evidence of significant vascular stenosis.

Initial endoscopy showed dark red blood and clots starting at the colonic-esophageal anastomosis at 22 cm, resulting in inability to advance the endoscope due to poor visualization and looping of the interposed colon. A repeat endoscopy was performed the next day, which showed healthy appearing mucosa in the esophago-colonic anastomosis with dark red clots and blood in the colonic interposed graft. After lavage of the area, two small polyps (Figure 1), two medium-sized diverticula (Figure 2), and a 1.5 cm clean-based ulcer with pigmented spots (Figure 3) 1 cm above the colo-gastric anastomosis were found. The colo-gastric anastomosis was characterized by healthy-appearing mucosa. Although dark red blood and clots were found in the stomach and duodenum, there was no sign of active bleeding. He was discharged with stable hemoglobin and vital signs, oral proton pump inhibitor, and was tolerating oral intake. Rivaroxaban was held on discharge.

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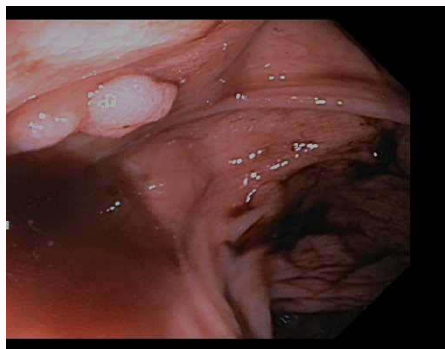


Figure 1: Small polyps in the middle third of the colonic interposition.

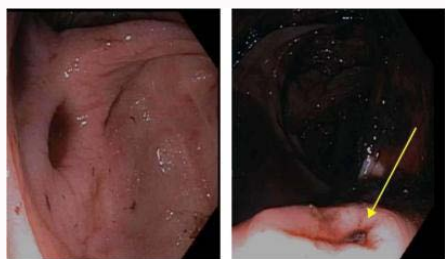


Figure 2: Two medium-sized diverticula in the lower third of the colonic interposition.

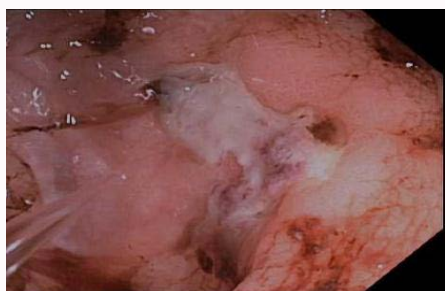


Figure 3: A 1.5 cm clean-based ulcer with pigmented spots.

Discussion

The most common indications for esophagectomy with conduit reconstruction include gastroesophageal tumor resection and benign reasons like caustic strictures. Reestablishment of the gastrointestinal continuity after esophagectomy has been made possible with the implementation of different methods such as gastric pull-up, and duodenal and colonic grafts [1]. The colonic graft has been preferred in cases where there are anatomical constrictions preventing the use of the stomach in surgery, an alleged resistance to acid peptic digestion, a dependable blood supply and easy mobilization [1,12-14].

Due to the widespread use of colonic grafts for esophageal substitution there are well-documented complications, including anastomosis leakage, stricture, and ischemia [9,10].

Prior studies investigating colonic resistance to gastric acid found that the colon can withstand gastric acid secretions better than the jejunum or esophagus [14]. However, as demonstrated in our patient, it would seem that the colon is susceptible to ulceration in the setting of likely prolonged exposure to gastric secretions. In the case of our patient who had undergone colonic interposition due to

severe gastroesophageal reflux, he should have close follow-up with gastroenterology and life-long gastrointestinal acid suppression to avoid ulceration of the graft.

Furthermore, another finding seen in our patient and other possible source of bleed is diverticular disease. Diverticulosis is a well-established differential diagnosis in painless hematochezia. However, diverticular bleed in colonic interposition has not been reported before. On literature review, two other cases reported diverticulitis as a complication of colonic grafts, usually presenting with swelling, erythema, and fistulous tract formation [15,16].

Conclusion

In our patient, the primary source of bleeding was difficult to differentiate due to the absence of active bleeding at the time of endoscopy. However, the findings of an ulcer in the interposed colonic graft with stigmata of recent hemorrhage suggest it is the most likely source of the bleeding, possibly from acid reflux.

This case demonstrates that patients with a history of colonic interposition are at risk of upper gastrointestinal bleeding from rare causes. We recommend early endoscopic evaluation, and close follow up.

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