Case Report

Iliac Artery Aneurysm with Primary Arteriocolic Fistula: An Unusual Cause of Lower Gastrointestinal Hemorrhage

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Abstract

Arteriocolic fistula is a rare but life-threatening condition. We report the case of a 70-year-old man who presented with passage of bloody stools and intolerable abdominal pain. Esophagogastroduodenoscopy and colonoscopy failed to identify the source of the bleeding. Contrast-enhanced abdominal computed tomographic scans showed an aneurysm arising from the left common iliac artery with close adhesion between the aneurysm and adjacent sigmoid colon, but no extravasation was detected. After an episode of severe abdominal pain with massive bleeding, emergency laparotomy revealed that the aneurysmal wall was closely adhered to the sigmoid colon with fistula formation. Iliac arterial aneurysm with arteriocolic fistula was diagnosed. The aneurysm was excised, and femoral-femoral bypass grafting was done. No bleeding recurred during 6 months of follow-up. Although bleeding from a primary iliac arteriocolic fistula is rare, it should be considered in the differential diagnosis of lower gastrointestinal bleeding, especially in patients with severe abdominal pain.

ABBREVIATIONS

GI: gastrointestinal, CT: computed tomography, LGIB: lower gastrointestinal bleeding.

INTRODUCTION

Aortoenteric fistula is a well-recognized complication of aortic aneurysm; in contrast, arterioenteric fistula originating from other major arteries is relatively rare. An arterioenteric fistula can lead to massive gastrointestinal bleeding and is potentially life-threatening. This is a challenging diagnosis for most clinicians. [1,2] We report a rare case of iliac artery aneurysm formation with development of a primary arteriocolic fistula. The patient presented with lower gastrointestinal bleeding that was successfully treated with surgical intervention.

CASE PRESENTATION

A 70-year-old man presented with a medical history of hypertension and with passage of bloody stools one day prior to being admitted to our hospital. These episodes of hematochezia were accompanied by intolerable abdominal pain. Upon admission, results of physical examination were unremarkable, except for mild tenderness to palpation of the lower abdomen.

Laboratory values were as follows: hemoglobin level, 9.7 gm/dL (normal range: 13.5–17.5 gm/dL); platelet count, 271,000/μL (normal range: 150,000–400,000/μL); prothrombin time, 10.3 seconds (control: 10.3 seconds); and activated partial prothrombin time, 28.3 seconds (control: 29.5 seconds). Complete colonoscopy revealed segmental hyperemia at the sigmoid colon, and the endoscope met with high resistance in this area. However, no active bleeding was noted during colonoscopy. Esophagogastroduodenoscopy also failed to disclose the possible site of bleeding. Computed tomographic (CT) angiography was performed to evaluate obscure gastrointestinal bleeding. Contrast-enhanced abdominal CT scans showed a 5.4-cm aneurysm with thrombus inside, which originated in the left common iliac artery. Close adhesion was noted between the aneurysm and adjacent sigmoid colon, and adjacent mesenteric fat stranding was seen as well (Figure 1A and 1B), but no extravasation was detected.

While he was hospitalized, the patient had several bouts of
severe low abdominal pain that radiated to his lower back, and he passed a large amount of bloody stool. The severity of the pain progressed to a point where it could be only partially controlled by injection of meperidine. After the patient had yet another episode of severe abdominal pain with massive gastrointestinal bleeding, emergency laparotomy was performed. This revealed that the aneurysmal wall was closely adhered to the sigmoid colon, and that a fistula had formed. A 0.3-cm fistular opening was noted at on the mucosal side of the sigmoid colon (Figure 2A and 2B). Iliac arterial aneurysm with arterioenteric fistula was diagnosed. Hartmann’s operation with sigmoidectomy was performed, the aneurysm was excised, and then femoral-femoral bypass grafting was done. Wound infection had developed during admission but this improved after debridement and antibiotic treatment. During a 6-month follow-up period, bleeding did not recur, and contrast-enhanced abdominal CT scans showed no signs of enterovascular fistula.

DISCUSSION

Lower gastrointestinal bleeding (LGIB) is common, and usually stops spontaneously. However, massive LGIB is life-threatening, and around 10% to 15% of these patients require emergency surgery [1]. The differential diagnosis of LGIB associated with abdominal pain includes ischemic bowel disease, intussusception, neoplasms, Crohn’s disease, and arterioenteric fistula [3].

Arterioenteric fistula is an indication of communication between a major artery and the digestive system. It is also rare but potentially life-threatening.

Primary and secondary arterioenteric fistulas may occur. Etiologies of primary arterioenteric fistulas include aneurysms, infection, peptic ulcers, trauma, foreign body ingestion, inflammatory bowel disease (Crohn’s disease), malignancy, and radiotherapy. Secondary fistulas are associated with complications from aneurysm repair [4]. Atherosclerosis, inflammation, infection, or neoplasms can lead to an expanding aneurysm, and primary arterioenteric fistula occurs spontaneously after a perforation into a fixed portion of bowel. Formation of a fistula of an iliac aneurysm that extends into the colon and results in primary arteriocolic fistula is rare [5,6].

Arterioenteric fistula occurs spontaneously after a perforation into a fixed portion of bowel. Aneurysm resection and reconstruction of the aorta with an impregnated graft have been the most popular approaches. Endovascular managements are suggested for patients at a higher risk for surgery. Embolization and percutaneous aortic endografts are commonly used. These are efficient and safe to stabilize life-threatening arterioenteric fistulas, and lead to shorter hospital stay and a lower incidence of complications. Rebleeding and re-infection are major complications, and further surgical treatments are always needed [4,9].
In conclusion, although bleeding from a primary iliac arteriocolic fistula is rare, it should be considered in the differential diagnosis of LGIB, especially in patients with severe abdominal pain.

REFERENCES


