Case Report

Endovascular Management of Primary Aortoenteric Fistulae

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Abstract

Primary aortoenteric fistula (AEF) is a rare clinical entity which is life-threatening. Early diagnosis and prompt treatment play a crucial role in the management. Minimally invasive approaches such as endovascular treatment are newer options in treatment. We describe three patients with primary AEF successfully managed with endovascular treatment. The presentation of primary AEF may be acute, with an exsanguinating unstable patient who would be unfit to undergo a major laparotomy. In such instances, endovascular treatment can be used as the initial option to control the bleeding. Endovascular treatment is a valuable treatment option to control bleeding when the morbidity of open repair is high.

Key Words: Aortoenteric fistula, endovascular, primary

Introduction

Aortoenteric fistula (AEF) is a rare clinical entity presenting as gastrointestinal (GI) bleeding. It can occur primarily with atherosclerotic aneurysms but often seen secondarily after aortic operations using prosthetic grafts. The first AEF was described by Sir Astley Cooper in 1829.[1] The clinical diagnosis is often made based on the history and evaluation. Management options are limited and can be surgical or endovascular, the latter being used more often in moribund patients not fit for open surgical repair.

Case Reports

Case 1

A 63-year-old male presented with recurrent hematemesis and melena for 3 weeks requiring multiple blood transfusions. He was a diabetic and hypertensive. Clinical examination was normal. Upper GI (UGI) scopy was normal. The computed tomography (CT) angiogram revealed atherosclerotic infrarenal aortic aneurysm [Figure 1] adherent to the third part of the duodenum. He underwent endovascular covered stent (Advanta V12 16 mm × 61 mm) placement. His postprocedure hospital stay was uneventful.

Case 2

A 48-year-old male presented with two episodes of fresh bleeding per rectum for 1 week. He did not have any comorbidities. Clinical examination was normal. Lower GI scopy revealed pulsatile lesion with active bleeding from sigmoid colon 38 cm from the anal verge [Figure 2]. Further evaluation with CT angiogram revealed AEF with communication between the right proximal iliac artery and sigmoid colon [Figure 2]. He underwent endovascular stent placement (right – Jomed 6–12 mm × 48 mm and left – Jomed 6–12 mm × 38 mm). He did not have any further episodes of bleeding and was doing well at 3 months follow-up [Figure 2].

Case 3

A 57-year-old presented with acute episode of large volume hematemesis. He had recurrent hematemesis for the past 4 months. He was a diabetic. He underwent a UGI scopy which was normal. Clinical examination revealed tachycardia and hypotension requiring multiple blood transfusions. CT angiogram revealed a thoracoabdominal aneurysm with contrast extravasation into the distal esophagus [Figure 3]. He underwent endovascular thoracic aortic repair with a stent graft (cook zenith flex 30 mm × 80 mm). His postprocedure stay was uneventful.

Discussion

An AEF is defined as an abnormal communication between the aorta and GI tract. Most commonly it involves the third

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Primary AEF is due to the pulsatile force within the aorta. Secondary AEF occurs due to factors such as anastomotic suture breakdown secondary to an infection, expanding constant pulsatile forces within the grafts, duodenal injuries, and also due to paraprosthetic infections/graft-enteric erosions.\cite{2-4}

Clinical features include the history of “herald bleed” - the first episode of bleed is minor and often self-limiting due to the thrombus plug. However, the subsequent episodes can be severe and recurrent. The classic triad of GI bleed, abdominal pain, and pulsating abdominal mass seldom occur.\cite{2-5}

Evaluation mainly involves the identification of the site of AEF. This can be achieved with luminal scopy (both esophagogastroduodenoscopy and colonoscopy) which can be operator dependent followed by contrast imaging series such as CT angiogram which is sensitive to arrive at a diagnosis. The CT findings such as the contrast in
Conclusion

Endovascular treatment is a feasible alternative option to open repair in the management of primary AEF.

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Conflicts of interest

There are no conflicts of interest.

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