



Staged Endovascular and Open Surgical Management of a Ruptured Common Iliac Artery Aneurysm Presenting with Ilio-Rectal Fistula and Hemorrhagic Shock

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Abstract

A wide variety of clinical presentations of complicated iliac arterial aneurysms is documented; however, ilio-rectal fistula in this setting has not been reported previously. We present a case of an 88-year-old gentleman who presented with massive lower gastrointestinal hemorrhage secondary to rupture of a left common iliac aneurysm with ilio-rectal fistula. Given the severe shock, patient was treated with endovascular exclusion of the aneurysm achieved with a percutaneous left common to external iliac artery stent-graft and embolization of internal iliac artery. Definitive repair was performed after resuscitation for 72 hours. This included a cross-femoral bypass followed by laparotomy, explantation of stent graft, endoaneurysmorrhaphy, and rectosigmoidectomy with end colostomy. Patient recovered well and over 18 month follow-up has had no complications. In conclusion, primary iliac aneurysms can rarely present with enteric and urological erosions or fistulas resulting in life threatening hemorrhage. Temporizing endovascular therapy despite the contaminated field can be life-saving.

Introduction

Primary Iliac Artery Aneurysms (IAAs) can rarely present with enteric and urological erosions or fistulas resulting in life threatening hemorrhage. Ilio-rectal fistula in the setting of a common iliac artery aneurysm CIAA has not been reported previously. Emergent repair of iliac aneurysms is associated with high morbidity and mortality.

Case Presentation

We present a case of an 88-year-old gentleman who presented with massive lower gastrointestinal hemorrhage secondary to rupture of a left common iliac aneurysm with ilio-rectal fistula. He was hypotensive on arrival with lactic acidosis despite ongoing transfusions. Computed tomography scan (CT) revealed left common iliac artery aneurysm with rupture into the proximal rectum (ilio-rectal fistula). Given the severe shock, the patient was treated with endovascular exclusion of the aneurysm achieved with a percutaneous left common to external iliac artery stent-graft (Gore Excluder Iliac Limb- 16 mm x 12 mm x 10 cm) and embolization of internal iliac artery.

Patient was stabilized and adequately resuscitated over the subsequent 72 hours. Definitive repair was then performed. This included an extra-anatomical right to left cross-femoral bypass followed by laparotomy, explantation of stent-graft and embolization plug, endoaneurysmorrhaphy, and rectosigmoidectomy with end colostomy. There were no peri-operative complications and hospital stay was 16 days.

Over an 18 month follow-up patient has done well and has had no complications.

Discussion

Most IAAs are associated with abdominal aortic aneurysms and isolated common iliac artery aneurysms (CIAA) are rare. The population incidence of an isolated iliac aneurysm (IAA) is 0.03% [1], comprising about 2% of all abdominal aneurysms [2]. Etiologies include atherosclerosis, trauma, mycotic infection, or collagen vascular diseases. Rarely iliac aneurysms can present with mass effect or erosion into surrounding structures as a result of their indolent expansion [3]. The literature suggests that all iliac artery aneurysms greater than 3.5 cm are repaired [4].

Up to 50% of these aneurysms can be symptomatic [2] and emergent repair in this setting carries

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Figure 1: Oblique coronal reconstruction from CT scan showing CIAA and iliorectal fistula.



Figure4: Follow-upCTAshowingfinalreconstruction (endoaneurysmorrhaphy, exclusion of left iliac system and right-to-left cross femoral bypass).

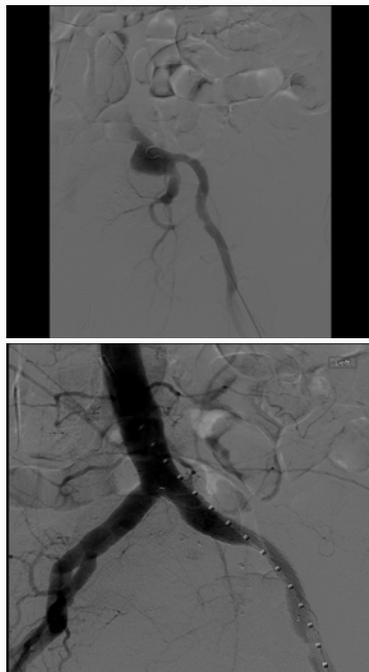


Figure 2,3: Pre EVAR and post-EVAR arteriograms demonstrating aneurysm and its subsequent exclusion via common to external iliac stent-graft and embolization of left internal iliac artery.

up to 27% mortality in contemporary literature [4]. Iliorectal fistulas have been reported secondary to internal iliac aneurysmal erosion [3], however, common iliac aneurysm with iliorectal fistula has not been described in the literature.

Our patient proved to be a diagnostic challenge. Lower gastrointestinal endoscopy was inconclusive and non-enhanced CT guided drainage of suspected abscess revealed arterial blood. A subsequent CT arteriogram confirmed the diagnosis [5].

Although in a contaminated field endovascular treatment using a prosthetic stent-graft is traditionally contraindicated, it proved to be life-saving in the setting of life threatening hemorrhage. This was later converted to an aseptic extra-anatomical vascular reconstruction along with required fecal diversion once the patient was stabilized.

Conclusion

Primary iliac aneurysms can rarely present with enteric and urological erosions or fistulas resulting in life threatening hemorrhage. Temporizing endovascular therapy despite the contaminated field can be life-saving.

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