# A Rare Case of Colorectal Malignancy Leading to Arterioenteric Fistula

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## Introduction

- Common presentations of advanced colorectal malignancy (CRM) include liver metastases, lower gastrointestinal bleeds, chronic anemia, large bowel obstructions, and/or invasion of nearby structures.[1]
- Arterioenteric fistulas (AEF) are rare yet devastating complications of advanced colorectal malignancies.
- These fistulas can be seen following neo/adjuvant therapies but are exceptionally rare de novo.
- The reported incidence of AEF is less than 1% and iliac artery-enteric fistula make up less than 0.1% of all AEF.[2]
- Here we present a patient in hemorrhagic shock secondary to advanced CRM with local invasion of the right external iliac artery.

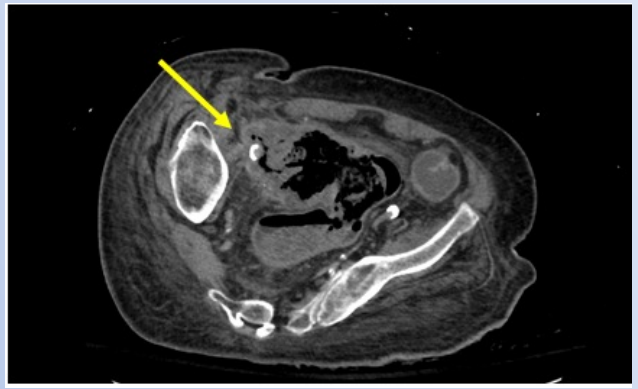

**Figure 1:** CTA Abd/Pelv w/circumferential envelopment of the right external iliac artery by sigmoid colon mass w/erosion into vessel wall.

## Case Report

- 70M w/PMH PAD, asthma, DVT (on coumadin), T2DM, Hep C, and paraplegia w/lower extremity contracture sp GSW 20 years prior presented to ED w/ painless bright red blood per rectum.
- CTA significant for circumferential envelopment of the right external iliac artery by sigmoid colon mass with erosion of vessel wall. (Figure 1)
- Deemed too unstable to survive surgery, patient taken to interventional radiology suite for intervention.
- Angiogram performed, demonstrated active hemorrhage from right external iliac artery. Hemostasis w/coil embolization. (Figure 2 & 3)
- Colonoscopy performed which demonstrated ulceration/necrosis in sigmoid colon. (Figure 3). Tubulovillous adenoma w/inflammatory changes on pathology.
- Day 9, two bright red bloody bowel movements. Taken urgently to the operating room for exploratory laparotomy.
- Large perforated colonic mass identified densely adhered to the right pelvic side wall. Colon was transected, mass was resected, and rectal stump oversewn.
- Vascular surgery performed ligation and excision of involved right external iliac artery distal to the hypogastric artery. Temporary abdominal closure.
- Day 12, return to the operating room for re-exploration. Right hydronephrosis noted, portion of mass involving right distal ureter and bladder. Placement of ureteral stents, end colostomy, abdomen closed.
- Postoperative course w/several complications, including urinary tract infection, ongoing ischemia of the right lower extremity, and worsening mental status, anemia, failure to thrive.
- Ultimately, family elected not to pursue further intervention
- Patient was discharged to hospice on hospital day 42 .

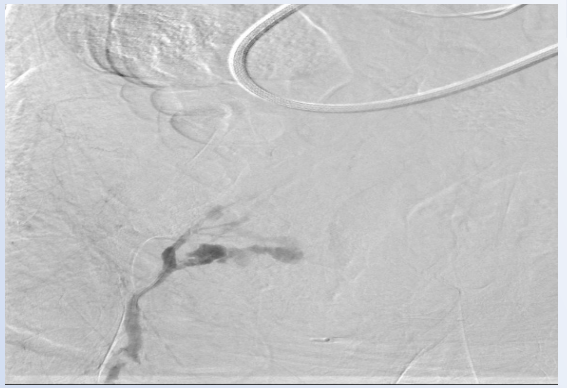

**Figure 2**: Pelvic angiogram with active bleeding right external iliac artery.

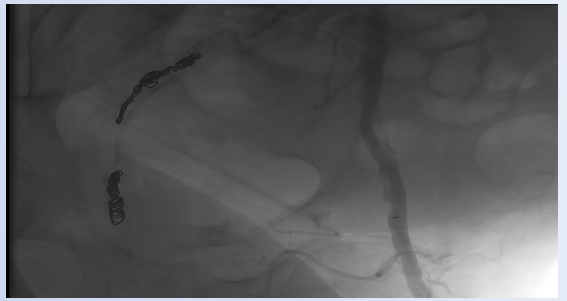

**Figure 3.** Final angiogram sp coil embolization proximal and distal to bleeding site w/preservation of right hypogastric artery.

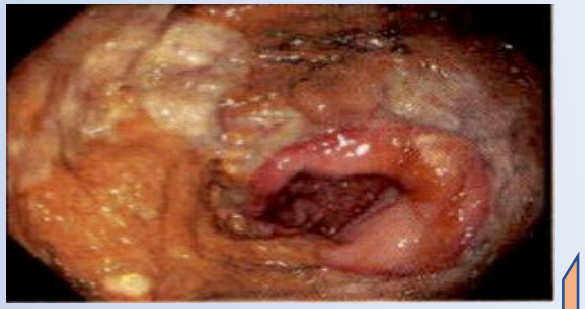

**Figure 3**: Colonoscopic view of sigmoid colon w/ulcerated, necrotic mucosa.

## Discussion

- Arterioenteric fistulas are rarely seen w/advanced CRM , and to our knowledge has not been described in the absence of any neoadjuvant/adjuvant chemotherapy or radiation.
- In ideal situations, endovascular control with stent placement with or without extra-anatomic bypass is a feasible option if anatomy and hemodynamics are favorable.[3]
- Endovascular control in an infected field carries risks of bacteremia, pseudoaneurysm, re-rupture, graft thrombosis, stenosis, and limb loss.[5] Given the fistulous connection to GI tract, risk of graft infection was extremely high.
- Endovascular control was seen as a temporizing measure as ultimately a revision and resection of the colonic mass and external iliac artery was needed following appropriate resuscitation.

## Summary

- We present an interesting case of the development of an arterioenteric fistula in the setting of an advanced colorectal malignancy which has rarely been described in the literature.
- It is vital to keep malignancy on the differential for lower gastrointestinal bleeds, especially in elderly patients without colonoscopy.
- Management of this unfortunate diagnosis involves a multidisciplinary approach, with early goals aimed towards life-saving measures.
- Engagement of palliative care and conversations with the patient and family regarding goals of care are of utmost importance.