Lower Gastrointestinal Bleeding Due to Iliac Artery-cecal Fistula: A Late Presentation of Blunt Injury Abdomen

Ambrish Kumar, Ajaykumar Raghunath Pandey, Ved Prakash, Vikas Singh, Sekhar Tandon, Shailendra Yadav
Department of CTVS, KGMU, Lucknow, Uttar Pradesh, India

Abstract

We report a case of an arterio-enteric fistula between an Right iliac artery and otherwise healthy cecum, presenting with torrential lower gastrointestinal bleed in an 14-year-old patient. Whilst fistulization to the aorta and common iliac arteries has been reported, to our knowledge no previous cases of post traumatic fistulization between an right iliac artery and normal cecum has been reported. Successful open exploration primary repair of iliac artery rent with ileostomy and colostomy was done. Later stoma reversal was done successfully.

Keywords: Arterio-enteric fistula, lower gastrointestinal bleed, posttraumatic fistula, right iliac artery-cecal fistula

INTRODUCTION

Main causes of massive lower gastrointestinal (GI) bleeding include diverticular disease and vascular malformations of colon. Right colon is most frequently the involved organ in bleeding and diagnosis is often performed using endoscopy and image examination.[1] Fistulae between arteries and GI tract are a rare cause of GI bleeding, and most frequently in literature include aortoenteric fistulae secondary to aortic surgeries, with communication between proximal anastomosis and duodenum. Arterio-enteric fistula between right common iliac artery and cecum presenting as lower GI bleed is a rare entity. Arterioenteric fistula presenting later after 1 month following episode of blunt trauma abdomen is even rare.

CASE REPORT

A 14-year-old boy reported to our emergency with complaint of large right lower abdominal mass, rapidly increasing in size for 15 days, right lower limb pain for 1 week and limb maintained in flexion position, scrotal swelling for the last 1 week and bleeding per rectum for 4 days. The patient also gave a history of fall from bicycle around 1 month back when handle of bicycle hit in right lower abdominal area. The patient was admitted at one of local hospital before and underwent 6 units of blood transfusion and was later referred to our center. Patient was evaluated, had severe anemia (Hb = 3.6 mg/dl) which was managed with blood transfusion. He underwent ultrasonography whole abdomen which was suggestive of features of right sided arteriovenous malformation? Aneurysm with surrounding inflammation. On further evaluation with contrast-enhanced computed tomography (CT) scan [Figure 1] was suggestive of a well-defined rounded heterogeneous lesion with hyperdensity of hemorrhagic attenuation measuring 11.2 × 9.3 × 13.9 noted in right ilio-lumbar region. Lesion arising from proximal part of right common iliac artery. Lesion compressing adjacent bowel loop most probably a partially thrombosed pseudoaneurysm of right common iliac artery with secondary infection.

The patient was optimized with adequate blood transfusion and was planned for further evaluation. Meanwhile patient had episode of sudden massive of lower gastrointestinal (GI) bleed and had to be taken for emergent laparotomy and exploration. Patient has large 20 cm × 18 cm size pseudoaneurysm arising from right external iliac artery ruptured into caecum causing massive bleed. On exploration, cecum was seen filled with blood clot approximately 1500 ml [Figure 2] (2–3 kidney tray) and wall of caecum mimicked as wall of pseudoaneurysm. On further dissection and taking control proximally on aorta and

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Address for correspondence: Dr. Ajaykumar Raghunath Pandey, E-mail: drajaykumarpandey@gmail.com

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distally on right external and internal iliac arteries primary repair of right common iliac artery rent was done with prolene 5-0 and right side limited excision of part of terminal ileum, caecum and ascending colon was done and a double barrel ilio-ascending stoma was made. The patient was managed in postoperative period with blood transfusion, parenteral nutrition, and later high energy enteral feed. Patient recovered well and was discharged on the 10th postoperative day. Patient later underwent stoma reversal in gastroscopy department and is doing fine now.

**DISCUSSION**

Arterio-enteric fistula is an exceedingly rare condition reported earlier in cases of tumor infiltration into the bowel, lymphatic dissemination of bowel, postsurgery, postlymphadenectomy, pelvic infections, cecal cancer, and gunshot injuries.[2,3] Arterio-enteric fistula presenting as a delayed sequeale of blunt trauma abdomen is reported for the first time. Patient in this case had history of fall from bicycle 1 month back and after 15 days he noticed right lower abdominal swelling which most probably was pseudoaneurysm. Later due to pressure effect of pseudoaneurysm had right lower limb pain due to rupture of pseudoaneurysm in cecal cavity, patient experienced massive lower gastro intestinal bleed.

Colonoscopy is the first diagnostic step for patients with lower GI bleed, but the detection rate for arteriocolic fistula is low. CT has the highest sensitivity for detecting an aortoenteric fistula, followed by arteriography.[4] The most specific CT sign, direct extravasation of contrast medium into bowel lumen, is rarely seen. CT signs suggestive of the diagnosis include effacement of the adjacent fat plane, focal thickening or tethering of a bowel loop, and presence of a penetrating ulcer or intramural hematoma at the vessels.[4] In this case, CT scan was done from previous hospital which was s/o pseudoaneurysm arising from iliac vessel and compressing adjacent structure. By the time, the patient was planned for colonoscopic evaluation; he suffered massive lower GI bleed and had to be taken for exploration.

A case of pseudoaneurysm from right common iliac artery ideally dealt primarily by endovascular repair but in complicated cases like in our case it has to be managed with emergent surgery.[5] Endovascular repair is contraindicated due to the presence of fecal contamination.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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