

## Iliac-Enteric Fistula as a Late Complication of Aortic Surgery

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### Abstract

An aorto-enteric fistula consist of an abnormal communication between the aorta or one of its branches to any part of the small or large bowel [1]. The causes of AEF are classified as primary, secondary and the very rare idiopathic form [2]. The primary (PADF) is a spontaneously forming fistula which may follow erosion by atherosclerotic aortic aneurysm. Secondary causes are often late complications of Abdominal Aortic Aneurysm (AAA) repair including open and endovascular techniques [2]. Secondary aorto-enteric fistula is a rare postoperative complication after aortic surgery. Autopsy studies revealed an incidence of PADF of 0.04-0.07% [3]. However, although it is uncommon, its prognosis is very poor [1]. We present the case of a rare variant, an iliac-enteric fistula as an anomalous type of presentation of a late complication in a patient with previous aortic surgery.

**Keywords:** Aortic Surgery; Aorto-enteric fistula; Iliac-enteric fistula

### Clinical Case

A 63 year old male patient with not known drug allergies, with a medical history of high blood pressure, dyslipidemia, cerebrovascular accident, multifactorial anemia and benign prostatic hyperplasia. In 2010 he underwent an emergency sigmoidectomy and end colostomy due to a complicated acute diverticulitis. Hartmann's reversal was performed afterwards. An elective aortic-bifemoral bypass was conducted in 2012 in order to repair an infra-renal aortic aneurysm and a left iliac artery aneurysm.

The patient attended the emergency department in January 2018 for sudden abdominal pain and fever (39.7°C). An emergency CT scan was performed which reported postoperative changes secondary to aortic-bifemoral bypass and distal ileum segment with wall thickening and extraluminal air bubbles surrounding the right hypogastric artery (Figure 1).

The impression was a prosthetic infection. Given the hemodynamic stability, delayed urgent surgery was decided.

A multidisciplinary surgical team attended theatre, with the collaboration of vascular and general surgery. After proceeding to an iterative transverse laparotomy, anatomization of the abdominal cavity and control of the proximal aorta at the infra-renal level was performed. Subsequently, bilateral inguinal anatomical tunneling was performed, observing an important number of adhesions at the right iliac prosthesis level in its distal segment. Intussusception of the Goretex prosthesis was observed at the iliac level in the distal ileum. Finally, the difficult dissection was achieved, dividing the 10cm invaginated ileal segment and observing a linear tear of this segment. Given the non-viability of the intestinal segment, a bowel resection with mechanical anastomosis was performed (Figure 2).

Subsequently, the bifurcated prosthesis is removed and an axilo-bifemoral bypass is formed, recovering good distal femoral pulses (Figure 3).

During the final revision of the abdominal cavity, a descending colon ischemia was obvious. Therefore, removal of the ischemic intestinal segment and an end colostomy was performed. The patient was transferred to Intensive Care Unit. After ruling out other complications, the patient was transferred to hospitalization unit after 7 days of surgery and discharged home the 20<sup>th</sup> after surgery.

During follow up in out-patients department, the patient remained initially non-symptomatic

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Figure 1:



Figure 2:

and with a good quality of life. However, he attended the emergency department for pain in the left lower limb with a decrease in peripheral pulses. The vascular surgery team decided to perform a by-pass to the third left popliteal with a correct evolution.

No stoma reversal was agreed due to the good quality of life of the patient, and the high risk. The patient is currently undergoing outpatient check-ups in both general surgery and vascular surgery, where he is showing good clinical progress.

## Discussion

Secondary aorto-enteric fistula (SET) is an abnormal communication between the aorta and the gastrointestinal system. AEF is a rare condition with a high probability of mortality [1]. Most cases are caused by previous aortic surgery and involvement of duodenum level. It is a rare but life-threatening complication first described by Brock in 1953. Surgical repair is complex and despite surgical advances, it has a high mortality rate. It is an entity with difficult diagnosis and requires a high rate of suspicion and specialized medical equipment. As most surgical emergencies, prompt diagnosis is key in determining outcome [2].

Conventional open surgical repair in the acute setting is associated with significant morbimortality [9]. It has now been shown that the endovascular approach to this type of lesion presents a better recovery with a lower morbidity-mortality [1]. Not with standing the technical availability or hemodynamic instability of the patients, an open approach to aorto-enteric fistulas is required.



Figure 3:

The treatment of arterio-enteric fistulas continues to follow in our hospital environment a challenge in surgical management, which requires a high diagnostic suspicion and an important medical specialization as well as the need for a multidisciplinary team.

## References

1. Leonhart H, Mellander S, Sny J, Lönn L. Endovascular management of acute bleeding arterio-enteric fistula. *Cardiovasc Intervnt Radiol.* 2008; 31: 542-540.
2. Dimech AP, Sammut M, Cortis K, Petrovic N. Unusual site for primary arterio-enteric fistula resulting in massive upper gastrointestinal bleeding-A case report on presentation and management. *Int J Surg Case Rep.* 2018; 49: 8-13.
3. Taheri SA, Kulaylat MN, Grippi J, Ricotta JJ, Kale J, Bernhard H. Surgical treatment of primary aortoduodenal fistula. *Ann Vasc Surg.* 1991; 5: 265-270.
4. Cohen N, Lyons R, Weireter L. Internal Iliac- Enteric Fistula: A Rare Cause of Hemorrhagic Shock. *Am Surg.* 2017; 83: e300-301.
5. Deijen CL, Smulders YM, Coveliers HME, Wisselink W, Rauwerda JA, Hoksbergen AWJ. The Importance of Early Diagnosis and Treatment of Patients with Aorto-enteric Fistulas Presenting with Herald Bleeds. *Ann Vasc Surg.* 2016; 36: 28-34.
6. Franchin M, Tozzi M, Piffaretti G, Carrafiello G, Castelli P. Emergency endovascular "bridge" treatment for iliac-enteric fistula. *Cardiovasc Intervent Radiol.* 2011; 34: 1106-1108.
7. Robertson GA, Valente JF, Hunter GC, Bernhard VM, Putnam CW. Iliac-enteric fistula following Dacron patch angioplasty. *Ann Vasc Surg.* 1991; 5: 467- 469.
8. Fernández C, Calvete J, García J, Buch E, Castells P, Lledó S. Intestinal complications from vascular prostheses. *Angiologia.* 1993; 45: 214-217.
9. Yamamoto Y, Igari K, Toyofuku T, Kudo T, Inoue Y. Late Stent Graft Infection after the emergency endovascular repair of a secondary iliac artery-enteric fistula treated with graft removal and *in situ* aortic reconstruction using femoral veins. *Ann Thorac Cardiovasc Surg.* 2017; 23: 113-117.