

# LATE SPONTANEOUS AORTO-ENTERIC FISTULA AFTER ENDOVASCULAR REPAIR OF ABDOMINAL AORTIC ANEURYSM

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## INTRODUCTION

**Aorto-enteric fistula (AEF)** formation after endovascular abdominal aortic aneurysm repair (EVAR) without prior abdominal surgery is exceedingly rare. It can occur at any time postoperatively. In some cases, unclear mechanism for fistula formation is apparent.<sup>1</sup> It is associated with a serious prognosis. Early diagnosis and intervention are essential to avoid a fatal outcome.<sup>2</sup>

This is one case report about spontaneous aorto-enteric fistula 6 years after an elective EVAR.

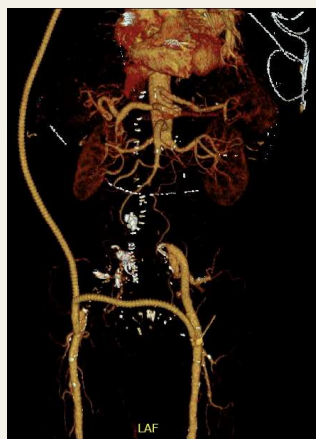
## CASE REPORT

82-year-old man admitted because of anemia and gastrointestinal bleeding mixed (hematemesis and melena).

**History** : Six years prior, he undergone an uneventful endovascular repair of an infrarenal abdominal aortic aneurysm.

**Computed tomography (CT) two months before**: the stent was in the right position, without evidence of infection. However, we noted a progressive enlargement of the aneurysm sac with no clear evidence of endoleak.

**CT In the emergency room**: presence of massive amount of periprosthetic air bubbles within the aneurysm sac, which raised suspicion for an **AEF**.



**Treatment**: Extra-anatomic **axillo-bifemoral bypass**, endograft explantation, aneurysm sac debridement, and enteric repair were done urgently.

**Culture**: Streptococcus agalactiae, Aggregatibacter segnis, Escherichia coli and Bacteroides fragilis.

## DISCUSSION

**Secondary AEF** after EVAR is extremely rare but life-threatening illness. The aetiology and mechanisms are unsettled.<sup>3</sup> A recent study from Italy, the MAEFISTO study, described the incidence as 0.7% for the total cohort (22/3448 patients).<sup>4</sup>

**Clinic**: Classically, the patient complains of gastrointestinal bleeding, known as herald bleeding. Sometimes, these fistulas arise simply with signs of sepsis.<sup>3</sup>

**Diagnosis**: CT confirms diagnosis in only 80% of cases.<sup>1</sup> Endoscopy cannot excludes diagnosis in the absence of gastrointestinal bleeding and if no fistula is seen.<sup>1</sup> Often, diagnosis is established during surgical exploration.<sup>1</sup>

### Mechanisms:

- 1) Aortic wall erosion or perforation by the stent graft body with or without migration, kinking or fracture, by the hook, a guidewire, and/or coil.<sup>1,3</sup>
- 2) Peri-aortic inflammation which includes pre-EVAR infected or inflammatory aneurysm, local infection, stent graft infection, intervention for endoleak.<sup>3</sup>
- 3) Compression caused by the pre-existing aneurysm sac, persistent endotension, and re-expansion of the aneurysm sac.<sup>3,5</sup>

**Management**: Surgical treatment must be associated with antibiotic therapy, but no guidelines exist on the exact duration of treatment.<sup>1</sup> Traditionally, surgical treatment consists of aortic replacement by cryopreserved allograft or by axillo-bifemoral bypass with ligation of the abdominal aorta and iliacs, in conjunction with removal of the infected graft and enteric reconstruction or repair.<sup>2</sup>

**Mortality**: While rapid diagnosis and intervention increases survival rate, this condition is associated with high mortality.<sup>2</sup>

## CONCLUSION

- **AEF can occur even after initially successful EVAR, so long term surveillance is essential.**<sup>3</sup>
- **There is no time limit for the fistula to occur.**<sup>2</sup>
- **Establishing the diagnosis is more difficult due to the multiple mechanisms leading to formation of AEF.**<sup>1</sup>
- **Diagnosis can be suspected on CT and confirmed by surgery.**

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