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Emergency Open repair of Secondary Aorto-duodenal Fistula: A Case Report

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Abstract

Background: Aortoduodenal fistula is a rare but life-threatening condition. We present a case of an emergency open repair of an aortoduodenal fistula.

Case Presentation: A 58-year-old male presented with massive gastrointestinal bleeding. Diagnostic imaging revealed an aortoduodenal fistula over a previous EVAR stent graft. Emergency open surgery was performed where aortic stump was ligated, EVAR stent was explanted and revascularistaion through Left axillo-bifemoral bypass. The patient had an uneventful recovery.

Conclusion: Prompt diagnosis and surgical intervention are critical in managing aortoduodenal fistulas.

Keywords: Aortic aneurysm, Open repair, Aorto-duodenal fistula

INTRODUCTION

Aortoduodenal fistulas are uncommon but critical causes of gastrointestinal bleeding. They typically occur as a complication of aortic aneurysm or infected aortic graft. Prompt recognition and intervention are essential to prevent fatal outcomes.

Case Presentation

A 58-year-old male with a history of previous EVAR aortic aneurysm repair presented to the emergency department with hematemesis and melena. On examination, he was hypotensive and tachycardic. Laboratory tests revealed hemoglobin of 7.8 g/dL and WBC 32. Massive blood transfusion protocol was initiated.

A Contrast-enhanced CT scan was performed which showed an aortic graft with a suspected fistula to the duodenum as shown in Fig 1.

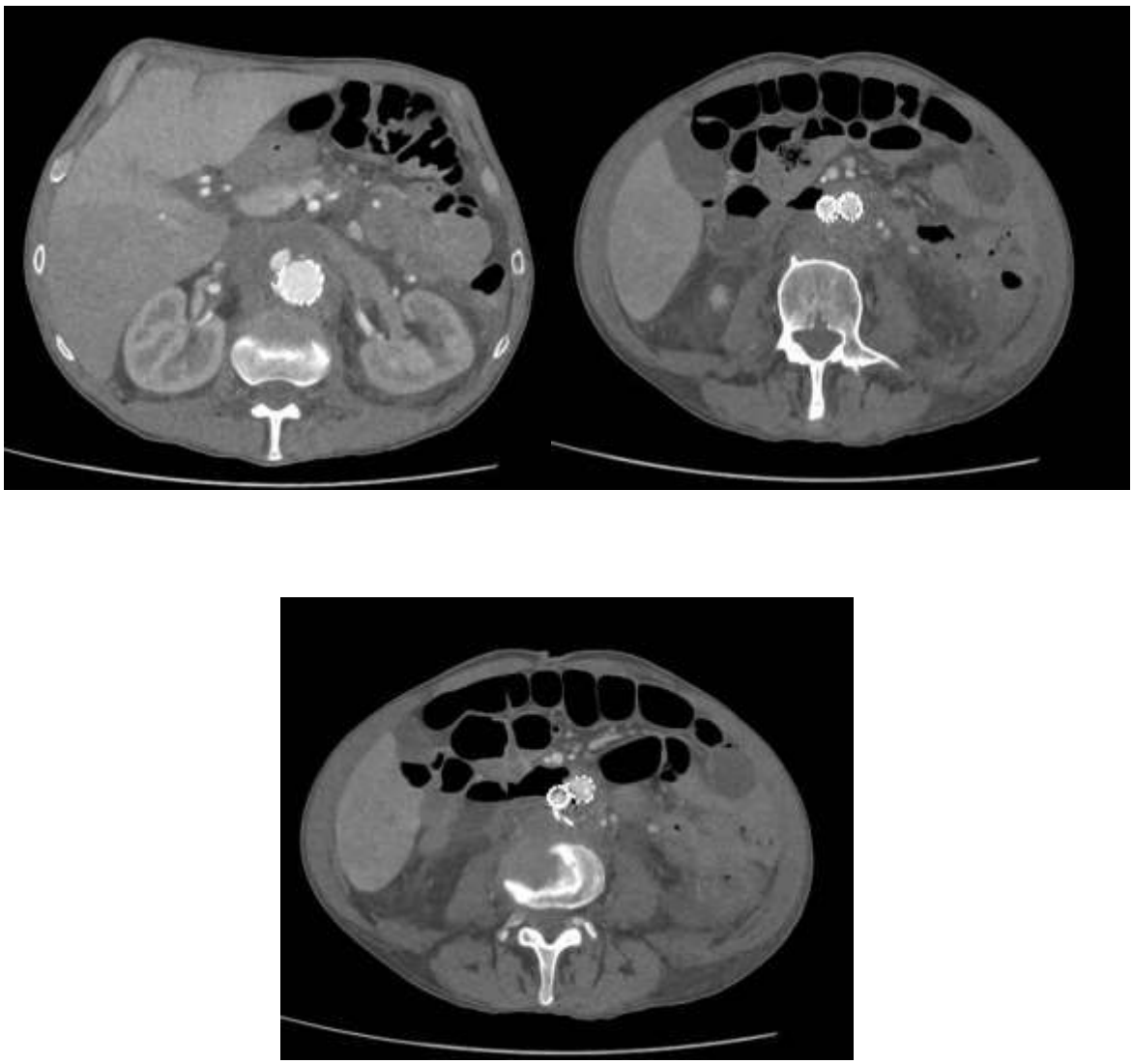

Fig 1. Preoperative CT scan showing aortoduodenal fistula.

The patient was transferred immediately to theatres. An emergency open repair was planned. Emergency laparotomy with supracoeliac clamp applied. Distal CIA control was obtained with identification and preservation of the ureters.

The aneurysm sac was opened and a large fistula was identified between the aortic graft and the 2nd part of the duodenum. The aortic graft was explanted, where it was divided above the fabric level to ensure total removal of the stent fabric. The aortic stump was oversewn using 2-0 prolene in multiple layers.
The duodenal defect was closed primarily, and a pedicled omental flap was used to reinforce the repair. Two 16 Fr drains were placed in the pelvis and epigastrium. The graft was sent for microbiology lab for culture and sensitivity.

Laparotomy closure was done then the patient was prepped and re-draped for Left axillo-bifemoral bypass using 8mm ringed PTFE bifurcated graft. Bilateral DPA good doppler signals were identified at the end.

The patient was stabilized and transferred postoperatively to the ITU for close monitoring. He was extubated on the following day without any major complications.

Discussion

Aortoduodenal fistulas are most commonly secondary to previous aortic surgery. Symptoms typically include gastrointestinal bleeding and abdominal pain. The gold standard for diagnosis is a contrast-enhanced CT scan, which often shows the fistula.

Although secondary aortoduodenal fistula represents a rare complication after aortic reconstruction, it is associated with high morbidity, mortality and an overall poor prognosis. [(1)] Factors associated with early death are usually shock at time of presentation, preoperative blood transfusion for anaemia, and need for aortic clamp placement above the renal arteries during the fistula repair. [(2)]

Optimal operative management should address both the aortic and duodenal defects and be complemented with appropriate reconstructive procedures. Endovascular aortic approaches seem feasible in carefully select patients in whom duodenal repair may be omitted. [(3)]

Data on long-term outcomes of the different approaches for secondary aortoduodenal fistula management are yet lacking; however, existing evidence indicates that treatment allocation should be individualized based on patients' condition, comorbidities, local expertise, and the anatomic delineation of the secondary aortoduodenal fistula. [(3)]

This case highlights the importance of prompt surgical intervention, which can be lifesaving. Early recognition and aggressive management are crucial.

Conclusion

Aortoduodenal fistulas, though rare, require a high index of suspicion and prompt surgical intervention. This case highlights the successful management of an emergency open repair, emphasizing the need for timely diagnosis and surgical expertise.

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