

The pulsatile bulge on the oesophagus: rare cause for hematemesis

S.Vinojan¹, S. Mathievaanan², S. Giridaran², D. Karunarasan¹, S. Ratnajothy¹

¹University of Jaffna, Sri Lanka

²Teaching Hospital Jaffna, Sri Lanka

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Introduction

Aortoenteric fistula is a rare but fatal condition. Here we present a case of primary aortoenteric fistula due to a thoracic aneurysm.

Case presentation

A 52 years old gentleman was admitted with a history of chest pain for 3 weeks duration associated with dysphagia. Although he denied a history of fever, he had a history of loss of appetite and loss of weight. The initial examination was unremarkable.

His white cell count was 22,000/mm³ with 90% of neutrophils, haemoglobin was 10g/dL and platelet was 364 X 10⁹ /L. His C-Reactive Protein (CRP) was 221 mg/L on admission. Other blood investigations were unremarkable. The initial blood culture was negative and the echocardiogram did not reveal any vegetation. As he had a history of dysphagia, he underwent upper gastrointestinal endoscopy (UGIE) which revealed a narrowing of the oesophagus at the level of 28 cm from incisor teeth but there were no mucosal abnormalities. Subsequently, he underwent Computed Tomography (CT) chest and abdomen. CT revealed a saccular descending thoracic aneurysm extending up to the level of the celiac artery with evidence of concealed rupture (Figure 1) and gas pockets around the aneurysm (Figure 2). While he was awaiting an urgent repair, he developed massive hematemesis and died.

Discussion

Aortoenteric fistula (AEF) is a rare but highly fatal disease. Dubreuil described this condition in 1818 in a patient who ingested beef rib [1]. AEF can be primary or secondary. Primary AEF occurs in the native aorta due to aneurysm, foreign body, malignancy and radiation. Secondary AEF occurs in an aorta which was previously operated [2].

Correspondence: Satchithanantham Vinojan

E-mail: vinojan@univ.jfn.ac.lk

 <https://orcid.org/0000-0002-7172-997X>

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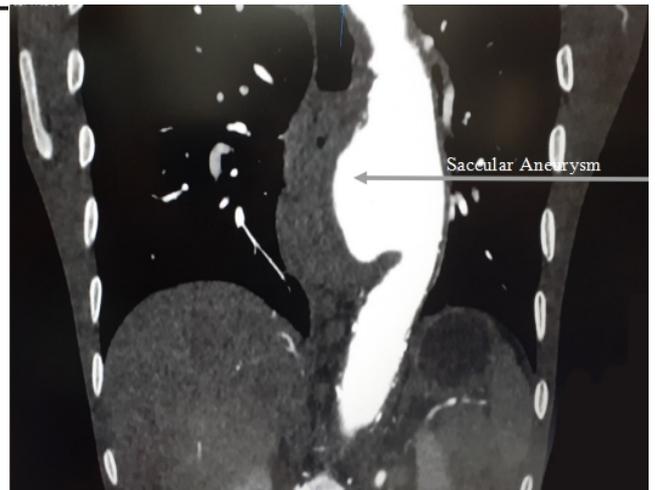


Figure 1. CT chest showing saccular aneurysm

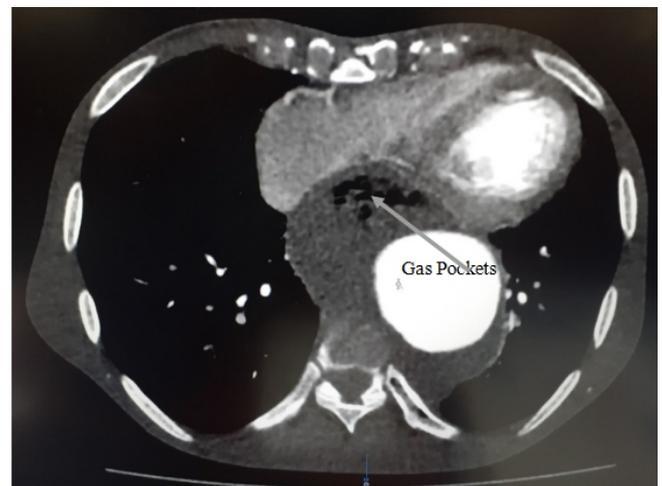


Figure 2. CT chest showing gas pockets around the aneurysm

Secondary AEF is more commoner than primary because of an increased proportion of aortic procedures.

In this patient, we suspect a mycotic aneurysm because of clinical and radiological features. Clinically this patient had a loss of appetite and loss of weight before the onset of other symptoms. In addition to this, his inflammatory markers were high on admission and there were air pockets in the CT chest both suggestive of active infection. The rest of the aorta was normal without any evidence of atherosclerotic changes. Blood cultures were negative may be because of a partially treated infection.

Oesophagus is affected in 28-30% of cases of aortoenteric fistula [2]. Chiari explained the triad of symptoms; mid-thoracic chest pain or dysphagia, sentinel haemorrhage followed by massive haemorrhage [3]. Our patient had this typical triad although only 45% of the patients with AEF presented with Chiari's triad [4]. Initial mid thoracic pain may be due to rapid stretching of the aortic wall, erosion and dissection of the aortic wall and oesophageal perforation. Air pockets in the CT chest can be due to mediastinitis due to oesophageal perforation which is also another cause of chest pain. Dysphagia was due to mechanical compression. Initial herald bleeding settled because of hypotension and clot formation.

UGIE and computed tomography angiogram (CTA) can be used to diagnose the fistula. There are reported cases where initial UGIE might fail to diagnose AEF as in our case. Pulsatile bulging with or without adherent clots is rarely seen in UGIE [2].

In patients with hematemesis and aorto-esophageal fistula, thoracic stenting would be a bridging therapy or primary treatment. In long run, there is a chance of stent graft infection due to a mycotic aneurysm, so some authors recommend lifelong antibiotic treatment. If the stenting is done as bridging therapy aorta should be replaced with either a prosthetic graft or an autologous graft. A prosthetic graft carries the same risk of infection as a stent graft. There are reported cases of replacement of aorta with bovine pericardium [5]. In this patient, as he developed massive hematemesis immediately after the diagnosis we couldn't proceed with stenting or definitive surgical repair.

Aortoenteric fistula should be suspected in patients with mid-thoracic pain and herald bleeding which is bright red. Unnecessary delay in initial diagnosis might negatively affect the outcome.

Conclusion

Even though upper gastrointestinal bleeding due to aortoenteric fistula is rare, it should be suspected in a patient with chest pain and dysphagia. Initial herald bleeding is the only warning sign and thoracic covered stenting would be the ideal treatment at least as a bridge.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

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Learning Points:

- Primary aortoenteric fistula is a rare cause of hematemesis
- Typical triad of chest pain, sentinel haemorrhage followed by massive haemorrhage only occur in some patients.