

## CASE REPORT

# Successful Endovascular Management of a Case of Aorto-oesophageal Fistula Presenting as Life Threatening Upper Gastrointestinal Bleed

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**Introduction:** Aorto-oesophageal fistula is a rare but life threatening cause of upper gastrointestinal haemorrhage. Severity of presentation and complexity of subsequent management depends on the size of the defect on both the aortic side and oesophagus.

**Report:** The patient was a 67 year old Chinese man, who presented initially with a Stanford type A dissection with caudal extension to the right common iliac artery. The patient underwent replacement of the ascending aorta and proximal arch with debranching of the right innominate artery and aortic valve replacement. A follow up computed tomography (CT) aortogram done in the post-operative period showed a stable appearance of the caudal extension of the aortic dissection. The patient was discharged with a plan for future stenting of the thoracic aorta. Three weeks later the patient re-presented with an upper gastrointestinal bleed from an aorto-oesophageal fistula. The patient underwent endovascular stenting of the descending aorta for management of the fistula. Repeat oesophagogastroduodenoscopy showed a small erosion 35 cm from the incisors where the previous bleeding site had been. No further bleeding was seen.

**Discussion:** The patient recovered uneventfully after the procedure. Follow up CT aortogram done at 6 weeks demonstrated thrombosis of the false lumen of the descending thoracic aorta. Aorto-oesophageal fistula related to chronic type B aortic dissection is an extremely rare clinical entity and presents a challenge to the treating surgeon. This case demonstrates that selected cases can be judiciously managed by thoracic endovascular aneurysm repair alone.

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Article history: Received 30 October 2017, Revised 8 April 2018, Accepted 9 April 2018,

**Keywords:** Aorto-oesophageal fistula, Haematemesis, Nipple sign, Thoracic aortic dissection, Thoracic aortic endovascular stenting

## INTRODUCTION

Aorto-oesophageal fistula is a rare but life threatening cause of upper gastrointestinal (GI) haemorrhage. The severity of the presentation and complexity of subsequent management depends on the size of the defect on both the aortic side and in the oesophagus. If left untreated it is likely to cause recurrent bleeds and may cause exsanguination. Herein, a case of aorto-oesophageal fistula related to type B aortic dissection which was managed by endovascular stenting, is presented.

## CASE REPORT

The patient was a 67 year old Chinese man with no major past medical history who presented initially with severe left sided jaw pain radiating to the back. An initial computed

tomography (CT) aortogram showed a Stanford type A dissection with caudal extension to the right common iliac artery. All the visceral branches were arising from the true lumen. The patient underwent replacement of the ascending aorta and proximal arch with debranching of the right innominate artery and aortic valve replacement, by the cardiothoracic surgery team. Post-operatively, the patient recovered well, without any complications. Follow up CT aortogram done on post-operative day 7 revealed stable appearance of the caudal extension (type B component) of the aortic dissection. All the visceral branches except the right renal artery, were arising from the true lumen. The patient was discharged home with a plan for future endovascular stenting of the thoracic aorta (for the type B component).

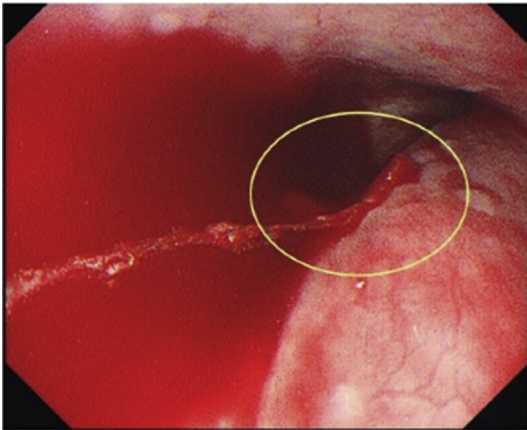
Three weeks later the patient re-presented complaining of several episodes of melaena followed by one episode of massive haematemesis. On arrival at hospital, the patient's haemoglobin was 6.8 g/dL. He was appropriately resuscitated and an urgent oesophagogastroduodenoscopy (OGD) was carried out, which showed active spurting at the mid-oesophagus arising from a visible vessel (nipple sign)

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<https://doi.org/10.1016/j.ejvssr.2018.04.003>



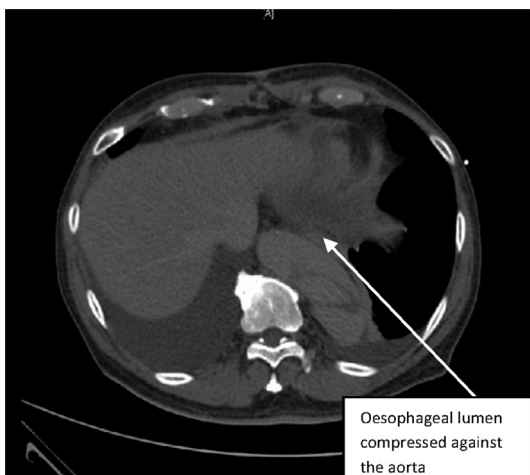
**Figure 1.** Oesophagogastroduodenoscopy images showed spurting of blood within the oesophageal lumen.

(Fig.1) with an underlying pulsating mass without any visible ulcer, suggestive of an aorto-oesophageal fistula. The patient was hypotensive at the time of the procedure and was subsequently resuscitated in the high dependency unit. An urgent CT aortogram was done, which showed a stable appearance of the dissection flap and did not demonstrate any contrast extravasation or any aorto-oesophageal fistula. The oesophagus was seen to be extremely compressed by the aorta at the level corresponding to the bleeding point in the oesophagus (Fig.2). All the supra-artic branches were patent (Fig.3) and there was no suggestion of visceral malperfusion. After extensive discussion with the patient and his family regarding possible operative options for the aortic dissection the patient underwent endovascular stenting of the descending aorta. A stent graft was deployed at the origin of left subclavian artery in the true lumen. Even after balloon moulding with a CODA balloon, the false lumen was still being perfused. Hence, an proximal extension was introduced and deployed distal to the left common carotid artery origin. Following this there was only a trickle of flow seen into the false lumen in a much delayed phase. A third stent was deployed to just above the coeliac artery,



**Figure 3.** Image showing patent supra-aortic branches at index presentation.

overlapping proximally with the stent grafts (Fig.4). Completion aortogram showed preserved perfusion of the visceral branches. A repeat OGD was carried out at the same time and showed a small erosion 35 cm from the incisors where the previous bleeding site had been. No further bleeding was seen. The patient recovered uneventfully after the procedure. He was slowly weaned to a normal diet. The patient was not on anticoagulants in the post-operative period. Haemoglobin was monitored serially and there was no further drop. The patient was discharged on post-operative day 6. Follow up CT aortogram done six



**Figure 2.** Showing the oesophagus extremely compressed against the aorta.



**Figure 4.** Final position of the stent covering the left subclavian artery (LSA). Faint opacification of the LSA.

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