

# Iatrogenic perforation of subclavian artery as a complication of coronary angiography from the radial route, endovascularly repaired with a covered stent-graft

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## DESCRIPTION

This 86-year-old, independent and mobile lady with a previous coronary artery bypass and bio-prosthetic aortic valve replacement was admitted with angina and ventricular tachycardia. She proceeded to have an uneventful coronary angiogram with graft study from the right radial approach. Thirty minutes postprocedure, she experienced central chest and epigastric pain radiating into the back, developed stridor and became hypotensive. She was treated for the common periprocedural complications of anaphylactic reaction to contrast and infection.<sup>1</sup> Her chest radiograph, an hour later, demonstrated a widened mediastinum with bilateral pleural effusions. Two hours later, a thoracic CT scan (figure 1) demonstrated a mediastinal haematoma displacing the trachea and oesophagus. Immediate CT angiography (figure 2) confirmed extravasation of contrast from the posterior aspect of a tortuous right subclavian artery.

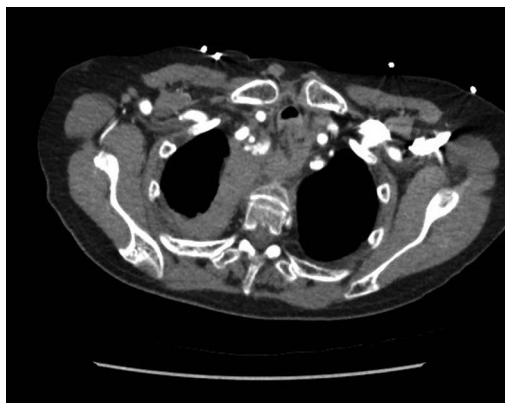
The perforation was managed conservatively for 12 h, but her ongoing requirement for multiple blood transfusions required input from the vascular surgeons. Nineteen hours after the perforation, they inserted a Gore VIABAHN 8 mm×50 mm covered stent-graft (figure 3) from the right femoral route into the right subclavian artery. This stabilised her condition and she made an uneventful recovery to her preadmission functional state



**Figure 2** Digital subtraction CT angiography showing contrast leak from R subclavian artery.

over the next 2 weeks, with conservative medical management of her index cardiac presentation.

There has been one similar case report published previously,<sup>2</sup> which indicates that such a complication, whilst rare, is possible. Endovascular treatment for vascular trauma has been shown to have a 96.9% success rate for stent placement and 84.4% follow-up stent patency.<sup>3</sup>



**Figure 1** Thoracic CT scan showing high-attenuation haemorrhage/haematoma in the mediastinum displacing the oesophagus and trachea to the left side.



**Figure 3** Angiogram showing placement of Gore VIABAHN 8 mm×5 cm covered stent-graft.

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## Learning points

- ▶ Although coronary angiography is relatively safe, postprocedure observation by qualified personnel with on-site high-dependency care is essential.
- ▶ Timely basic resuscitation is vital in the early stages of managing acute, life-threatening haemorrhage with more definitive, expert management delayed until the patient is stabilised.
- ▶ Simple investigations can identify most coronary angiographic complications, even the rarest ones.

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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