

# Unusual late presentation of coarctation of aorta with right subclavian artery aneurysm

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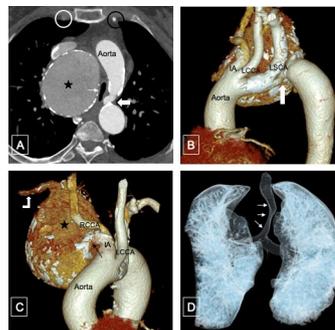
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## DESCRIPTION

Echocardiography in a 64-year-old patient with dyspnoea revealed coarctation of aorta with an aneurysm in the region of ascending aorta. CT angiography (CTA) showed juxtaductal coarctation of aorta ([figure 1A,B](#)). Additionally, a large saccular peripherally calcified aneurysm ([figure 1A,C](#)) was seen arising from first part of right subclavian artery (RSCA) ([figure 1C](#)), which was causing significant compression of the trachea ([figure 1A,D](#)). Distal RSCA was patent but attenuated ([figure 1C](#)). The right internal mammary artery was attenuated compared with left ([figure 1A](#)).

True aneurysm of RSCA has been very rarely described in association with coarctation of aorta.<sup>1</sup> Turbulent flow causing shear stress on the wall of left subclavian artery (SCA) is a mechanism well known to cause left SCA aneurysms in coarctation.



**Figure 1** CT angiography multiplanar reconstructed axial (A) and volume rendered image (B) reveal juxtaductal coarctation of aorta (block arrow). A large peripherally calcified aneurysm (black star in A and C) is also seen which is arising from the first part of right subclavian artery (RSCA) (black arrow in C). The aneurysm is causing significant compression of the trachea (white arrows in A and D). Distal RSCA was patent (bent arrow in C). The right internal mammary artery was attenuated (white circle in A) compared with left (black circle in A). IA, innominate artery; RCCA, right common carotid artery; LCCA, left common carotid artery; LSCA, left subclavian artery.

## Learning points

- ▶ Aneurysm of right subclavian artery in the setting of coarctation of aorta is rare.
- ▶ It can impede collateralisation from first part of the right subclavian artery and hence, may be hemodynamically significant.
- ▶ CTA helps in demonstration of such vascular pathologies and more importantly, associated airway compression.

However, the mechanism of RSCA aneurysm is still debated. Recent literature suggests genetic defects in the vessel wall causing the aneurysm formation. This is haemodynamically significant as the aneurysm will impede the collateralisation from the first part of SCA as seen in our patient (attenuated right internal mammary artery). Additionally, it was also causing significant airway compression in our patient. We describe here a very unusual late presentation of coarctation with RSCA aneurysm. This case is also an excellent example of the utility of 3D reconstruction of the CTA images ([figure 1B–D](#)) for demonstration of such vascular pathologies and also in demonstrating the airway compressions.

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- 1 Liu X, Li Z, He Y, *et al.* Right subclavian artery aneurysm: a rare complication of coarctation of the aorta. *Tex Heart Inst J* 2012;39:290–1.



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