

Images in Congenital Cardiac Disease

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Retro-aortic brachiocephalic vein with azygous vein continuation: a rare vascular variant

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Abstract

We present an infant with incidentally found retro-aortic left brachiocephalic vein draining directly into azygous vein. This rare vascular variant is asymptomatic but does have clinical implications with surgical and interventional procedures.

Case

An infant with a concern for vascular ring underwent a CT that demonstrated a right aortic arch with aberrant left subclavian artery. There was an incidental finding of a retro-aortic left brachiocephalic vein coursing through the posterior mediastinum, draining into the azygous vein close to its connection with the right superior vena cava (Figs 1 and 2a–b).

Discussion

Retro-aortic LBV is seen in 0.5–1% of all CHD. Different LBV variants (including sub-aortic) have been described, but retro-aortic LBV with azygous continuation is a rare vascular variant. Embryologically, it is likely caused by the improper persistence of the inferior transverse venous plexus between the cardinal veins, which is preceded by an abnormal aortic arch formation that prevents the typical anastomosis between the anterior cardinal veins.¹ Although there are no compressive effects, pre-procedural recognition is vital for surgeries involving the posterior mediastinum to avoid injury. Furthermore, identification is important prior to placement of central venous lines or transvenous pacemaker leads.



Figure 1. Coronal CT image in venous phase. Contrast injection from the left hand delineating the LBV (red arrow) coursing rightward through the posterior mediastinum, draining into the azygous vein (yellow arrow).

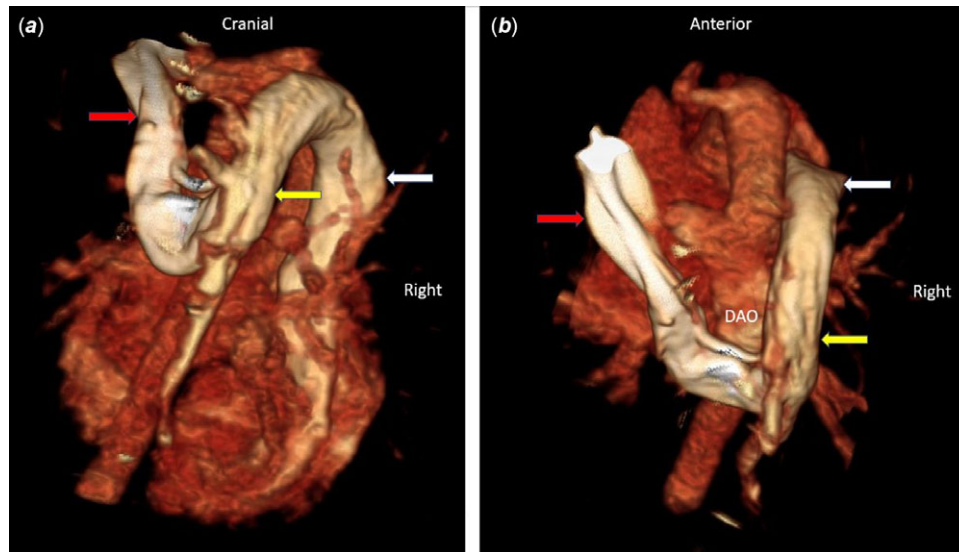


Figure 2. (a and b) Volume-rendered 3D image of retro-aortic brachiocephalic vein in posteroanterior and superoinferior orientation. LBV (red arrow) courses posteriorly to the descending aorta to drain into the azygous vein (yellow arrow), which drains into the superior vena cava (white arrow).

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Conflict of interest. None.

Ethical standards. The authors assert that all procedures contributing to this work comply with the ethical standards.

Reference

1. İkidağ MA. Retroaortic course and Azygous continuation of an aberrant left brachiocephalic vein. *Korean Circ J* 2018; 48: 763–765. doi: [10.4070/kcj.2018.0092](https://doi.org/10.4070/kcj.2018.0092)