

Isolated Left Superior Vena Cava: A Very Rare Venous Abnormality

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Image Article

Persistent Left Superior Vena Cava (PLSVC) is the most common variant of systemic venous drainage, affecting 0.3% to 0.5 % of the general population. However, Isolated PLSVC is a very rare venous abnormality. It affects 0.09-0.13 percent of patients with congenital heart diseases [1]. It develops as a result of a failure of obliteration of the left common cardinal vein and typically drains the left subclavian and jugular veins into the right atrium via the coronary sinus [2].

Isolated PLSVC is normally asymptomatic and discovered by coincidence on imaging or during a cardiac catheterization. However, it can cause complications with central venous access, cardiothoracic surgery, and pacemaker implantation and may cause a right to left shunt if it drains to the Left Atrium (LA). For that, clinicians should be

well aware of its variations and management strategies in order to avoid complications [1].

In imaging, it may be identified incidentally by echocardiography, often indirectly through recognition of a dilated coronary sinus. On cross-sectional imaging with Computed Tomography (CT) or Magnetic Resonance (MR), it is apparent as a vessel coursing vertically in the mediastinum, lateral to the aortic arch [2] (Figure 1).

References

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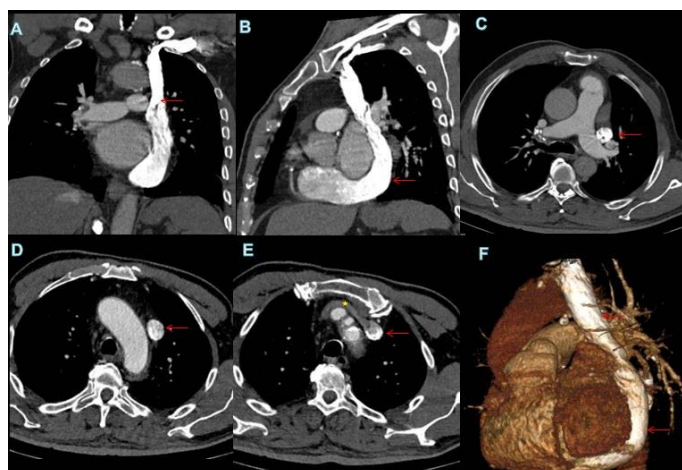


Figure 1: Contrast enhanced CT with Coronal (A), sagittal (B), axial slices (C, D, E) and 3D reconstruction (F) showing the absence of the right superior vena cava and persistent isolated left sided superior vena cava (red arrow) lateral to the aortic arch, draining via the coronary sinus into the right atrium which is dilated

Note: The right brachiocephalic vein (yellow star) drains directly into the left superior vena cava

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