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IMAGES IN CARDIOLOGY

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Wolff–Parkinson–White syndrome and persistent azygous drainage of the inferior vena cava

A 33-year old man with a history of transient palpitations presented to casualty with sustained tachycardia. His ECG showed pre-excited atrial fibrillation, with a left-sided accessory pathway. He was cardioverted to sinus rhythm, and transferred for electrophysiological treatment. A quadripolar lead was advanced from the right femoral vein under fluoroscopy, and it was noted that despite being wholly within the cardiac silhouette no electrogram was recordable. Contrast injected into the venous sheath demonstrated persistent azygous venous drainage of the inferior vena cava (panels A and B). An echocardiogram showed normal cardiac

structure, drainage of the hepatic veins into the right atrium, and superior vena cava opacification with bubble injection into the femoral sheath. Electrodes were passed to the coronary sinus (CS) from the right subclavian vein, and to the right atrium (HRA) and ventricle (RV) from the femoral vein (panel C, left anterior oblique). A retrograde approach was used to advance the ablation electrode to the left ventricle from the femoral artery. The accessory pathway was mapped to the free wall at 3 o'clock on the mitral valve annulus, and successfully ablated. A subsequent cardiac magnetic resonance scan confirmed no other abnormality.

Though a number of developmental anomalies of the inferior vena cava are described, they are rare in isolation. Persistent azygous drainage of the inferior vena cava is associated with atrial isomerism. The transeptal approach has replaced the retrograde approach for ablating left-sided pathways as the preferred method. The retrograde approach is, however, a tested and invaluable technique if transeptal puncture is not possible.

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