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CARDIOVASCULAR FLASHLIGHT

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Percutaneous repair of sinus venosus defect with anomalous pulmonary venous return

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We report the first-in-man combined percutaneous repair of a sinus venosus atrial septal defect (SVASD) with anomalous pulmonary venous return (APVR).

A 65-year-old woman with increasing exertional dyspnoea was diagnosed by cardiac echocardiography with a 12 × 8 mm SVASD and APVR of the right upper pulmonary vein (RUPV) into the lateral wall of the superior vena cava (SVC). Qp:Qs was 2.7:1. The patient refused open heart surgery.

The intervention was done under local anaesthesia and fluoroscopic guidance. A regular 0.035" guidewire, a 6 French (F) multipurpose catheter, and a 9 F TorqVue sheath (St Jude, Plymouth, MN, USA) were used to implant a 15 mm Amplatzer atrial septal defect (ASD) occluder (St Jude) into the SVASD, gauged at 8 × 9 mm with a 24 mm Amplatzer sizing balloon (St Jude) [Panel A, left: postero-anterior (PA), right: lateral (Lat) view].

The anomalous RUPV was documented with pulmonary (Panel B; top) and direct dye injections during temporary occlusion using the 24 mm sizing balloon (Panel B; bottom). There were no symptoms and wash-out of the dye through collaterals was prompt. The anomalous RUPV was plugged with an 18 mm Amplatzer ventricular septal defect occluder of which the distal disk remained constrained like a blimp (Panel C). The patient was discharged on clopidogrel for 1 month and acetylsalicylic acid for 2 months the next day after transthoracic echocardiography and chest X-ray (Panel D). Dyspnoea disappeared immediately and transoesophageal echocardiography at 2 months showed no residual shunt at rest. Medical therapy was stopped.

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