Transcatheter Closure of Residual Aortopulmonary Septal Defect

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A 5-year-old, 17-kg girl was referred for late residual shunt after neonatal surgical repair of an aortopulmonary window. Echocardiography revealed a continuous left-to-right shunt through a 5-mm defect just beside the patch at the aortopulmonary septal level. Ascending aortogram confirmed diagnosis of a residual, restrictive aortopulmonary window (Fig 1A, arrow). There was no pulmonary artery stenosis, normal pulmonary artery pressures, and significant shunting (Qp:Qs ratio = 1.9) at right-side heart catheterization. Transcatheter closure of the defect was attempted, as the shunt was located in the ascending aorta, away from the coronary artery ostia. The defect was crossed from the aorta with a 5F, Judkins Left 4 (Boston Scientific, Quincy, MA) catheter. The wire passed through this catheter was snared in the right ventricle using a 10-mm snare introduced through the right femoral vein (Fig 1B). A 6F Amplatzer septal occluder (St. Jude Medical, St. Paul, MN) sheath was introduced over the wire and advanced across the wire into the aorta. Closure of the aortopulmonary septal defect was successfully performed by deployment of a 4-mm Amplatzer septal occluder sheath under fluoroscopic guidance. There was no gradient within the pulmonary arteries or the ascending aorta, and repeat angiographies showed a well-positioned, stable device without any residual shunt (Figs 1C, 1D). The patient was discharged on a regimen of antiplatelet agent on day 2. The 2-year follow-up was free of complication.