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Wai-ee Thai, Richard W Harper and Sujith Seneviratne

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A 77-year-old woman presented with a 6-month history of increasing dyspnoea. Transthoracic echocardiography demonstrated a patent ductus arteriosus (PDA) complicated by left heart volume overload (indexed left ventricular end-diastolic diameter 3.6 cm/m²) and pulmonary hypertension (49 mm Hg) from chronic left to right shunting.

Dynamic volume 320-slice CT was performed to visualise the three-dimensional anatomy of the PDA and to determine the feasibility for percutaneous PDA closure. It highlighted the left to right shunting (panel A, online video 1) and enabled accurate sizing of the PDA (7 mm at the aortic end and 4 mm at the pulmonary end with a ductal length of 9 mm) on coronal and sagittal cross-sectional imaging (panel B). These measurements correlated well with echocardiography. Percutaneous PDA closure was deemed appropriate with 320-slice CT demonstrating the absence of significant ductal aneurysms or calcification (a CT virtual endoluminal three-dimensional view illustrating the PDA from the aortic end (panel C) demonstrated only a single calcified plaque adjacent to the PDA origin (also seen in panel B, black arrow). The patient underwent successful percutaneous PDA closure using an 8 mm by 6 mm Amplatzer Duct Occluder device (Amplatzer, AGA Medical Corporation, Minnesota, USA; panel D) with normalisation of pulmonary artery pressures 2 days after the procedure and significant symptomatic improvement at 5 months’ follow-up.

As illustrated in this case, cardiac CT in adult patients with PDA is a useful adjunct to echocardiography in demonstrating the three-dimensional ductal anatomy, ductal dimensions and complicating features such as calcification or aneurysm formation to the interventionalist to guide appropriate treatment strategies.

Wai-ee Thai, Richard W Harper, Sujith Seneviratne

Correspondence to Dr Sujith Seneviratne; sujith.seneviratne@southernhealth.org.au

Competing interests None.

Ethics approval The use of 320-slice cardiac CT has been approved for appropriate patients by the Southern Health Ethics Committee at Monash Medical Centre

Patient consent Obtained.

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