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**A device-occluded ductus arteriosus rendered patent by acute dissection involving the main pulmonary artery and the descending aorta**

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A 72-year-old woman presented with severe central chest pain and a loud continuous murmur. Blood pressure was 105/70 mmHg. She had undergone elective aortic valve and root replacement 7 years previously. Her coronary angiogram was normal. Three years later, a patent ductus arteriosus (PDA) had been missed was successfully closed percutaneously using an Amplatzer duct occluder II. The main pulmonary artery was noted then to be dilated at 4.3 cm. Subsequent echocardiographic and CT scan monitoring in the outpatient clinic showed no further evidence of PDA.

Transthoracic echocardiography (Panels A and B, see Supplementary data, Video) showed dissection flaps in the dilated main pulmonary artery and the descending aorta. There was moderately severe pulmonary regurgitation and severe tricuspid regurgitation; pulmonary artery systolic pressure estimated by Doppler was 45 mmHg. Colour flow and spectral Doppler (inset in Panel B) showed continuous flow from the descending aorta into the false lumen of the main pulmonary artery characteristic of PDA. Volume-rendered CT scans with contrast enhancement (Panels C–E) showed the full extent of the dissection involving the main pulmonary artery, the PDA (green arrow), and the descending aorta. It could not be determined however whether the dissection originated from the aorta, pulmonary artery, or even the ductus arteriosus. The Amplatzer duct occluder (white arrows) remained in situ.

The patient was deemed high risk for further surgery. She died 3 months later from progressive congestive cardiac failure. LA, left atrium; PV, pulmonary valve; FL, false lumen; MPA, main pulmonary artery; Ao, aorta

Supplementary data are available at *European Heart Journal – Cardiovascular Imaging* online.

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