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**Clinical vignette**

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Extrinsic compression of the left main coronary artery

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A 43-year-old female with a remote history of surgical closure of an atrial septal defect with persistent pulmonary hypertension presented with exertional chest discomfort. The transthoracic echocardiogram showed marked dilatation of the main, right, and left pulmonary arteries. Cardiac catheterization showed significant ostial left main coronary artery stenosis. Intravascular ultrasonography (IVUS) showed extrinsic compression of the left main with no atherosclerosis in the region. Pressure wire studies across the lesion showed a fractional flow reserve of 0.88, which was considered to be normal. Cardiac magnetic resonance imaging (MRI) showed compression of the right pulmonary artery on the left main coronary artery.

Panel A. Coronary angiography depicting significant stenosis of the left main coronary ostium (left anterior oblique cranial view).

Panel B. IVUS showing extrinsic compression of the left main coronary ostium.

Panel C. Transthoracic Echocardiogram showing pulmonary artery dilatation.

Panel D. MRI showing area of impingement (arrow) on the left coronary artery by the dilated right pulmonary artery (MPA, main pulmonary artery; RPA, right pulmonary artery; AO, ascending aorta).