Multimodality imaging of a right saphenous vein graft pseudoaneurysm

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A 74-year-old man with a history that was significant for two-vessel coronary artery bypass grafting (CABG) surgery, underwent magnetic resonance cholangiopancreatography for evaluation of chronic pancreatitis. A complex cystic mass, measuring 2 cm × 2 cm was incidentally observed anterior to the right atrium on the axial T2-weighted magnetic resonance cholangiopancreatography half-Fourier acquisition single-shot turbo spin-echo (HASTE) image (Figure 1A). A subsequent transthoracic echocardiography confirmed the cystic mass, extrinsic to the

right atrium, with no intracardiac communication following administration of agitated saline contrast (Figure 1B). Multidetector computed tomography identified a pseudoaneurysm of the right saphenous vein graft from previous CABG (Figure 1C). A three-dimensional, volume-rendered multidetector computed tomography image of the graft arising from the aorta and the pseudoaneurysm is shown in Figure 1D. Cardiac catheterization confirmed the presence of a discrete inlet communication into the saphenous vein graft pseudoaneurysm (Figure 1E). The patient underwent

Figure 1 **A** A complex cystic mass (arrow) measuring 3 cm × 3 cm × 4 cm was incidentally observed anterior to the right atrium on the axial T2-weighted magnetic resonance cholangiopancreatography half-Fourier acquisition single-shot turbo spin-echo (HASTE) image. **B** An apical four-chamber view of transthoracic echocardiography demonstrating an extracardiac mass extrinsic to the right atrium (RA). **C** Multidetector computed tomography identifying a pseudoaneurysm (PsA) (arrow) of the right saphenous vein graft from previous coronary artery bypass grafting (arrowhead). **D** A three-dimensional, volume-rendered multidetector computed tomography image of the graft (arrowhead) arising from the aorta and the PsA (arrow). **E** Cardiac catheterization confirmed the presence of a discrete inlet communication into the saphenous vein graft PsA (arrow) following selective injection before stent graft deployment with jet of contrast (arrowhead). **F** Sealed off PsA with stent graft deployment (arrowhead) and disappearance of jet of contrast (arrow). LA Left atrium; LV Left ventricle; RV Right ventricle

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successful occlusion of the ostium of the pseudoaneurysm by a covered stent graft (JOSTENT [Abbott Laboratories, USA] 4.00 mm × 8 mm) and disappearance of the jet of contrast (Figure 1F).

Saphenous vein graft pseudoaneurysms are a rare complication following CABG and warrant prompt recognition due to potential fatal complications (1). They are often asymptomatic, discovered as an incidental paracardiac or mediastinal mass using complementary cardiac imaging including echocardiography, computed tomography and cardiac magnetic resonance imaging (2). Although surgery has traditionally been the treatment of choice (3), percutaneous techniques such as coiled embolization or self-expanding stents are emerging alternative options (4).

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