A 54-year-old man with a known history of hypertension, obesity, coronary artery disease, and prior coronary artery bypass grafting in 1988 presented to the hospital complaining of a recent onset of chest pain. He was admitted and treated for an acute coronary syndrome. Myocardial infarction was ruled out on the basis of serial ECGs and cardiac enzyme analysis. A chest x-ray demonstrated a widened mediastinum (Figure 1).

MRI was performed to elucidate the cause of this radiological finding. Perfusion imaging performed in the short axis at the base of the ventricles demonstrated an aneurysmal, tortuous saphenous vein graft to the obtuse margin of the heart (Figure I); slow filling of the vein graft was identified, with thrombus in the distal aspect of the graft. Cine-MRI performed in the 4-chamber projection (Figure II) revealed the aneurysmal saphenous vein graft, which was partially filled with thrombus, compressing and distorting the mitral annulus, thus resulting in mitral regurgitation.

Cardiac catheterization demonstrated total occlusion of the proximal right coronary artery filling retrograde from the collateral circulation and aneurysmal changes in the left main, proximal left circumflex, and left anterior descending arteries. The left circumflex artery was totally occluded at the midsegment, and the left anterior descending artery demonstrated diffuse disease. The left internal mammary artery bypass to the left anterior descending artery was occluded, as was the saphenous vein graft to the right coronary artery. The saphenous vein graft to the obtuse marginal branch of the left circumflex artery was abnormally dilated (Figure 2); this was consistent with the MRI findings, and this dilatation corresponded to the mass seen in the chest x-ray. The patient improved on medical treatment, and a follow-up nuclear scan showed no evidence of ischemia.
Figure 1. Posteroanterior chest x-ray demonstrates sternal suture wires from prior coronary artery bypass grafting. Cardiac silhouette is within normal limits overall, although contour of upper left heart border is abnormal. Pulmonary vascularity is normal. The lungs appear clear.

Figure 2. Arteriography was performed of saphenous vein graft to distal left circumflex coronary artery. This single cineangiogram image demonstrates large, tortuous, and lobular aneurysm of saphenous vein graft.
Unusual Case of Widened Mediastinum
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