

# CARDIOVASCULAR IMAGES

A joint publication of the Department of Radiology and Heart Center

## Recurrent Scapular Pain in an Elderly Woman with a History of Coronary Artery Disease and Poorly Controlled Hypertension

Amar Shah, MD, Rinky Bhatia, MD, and Wilfred Mamuya, MD PhD

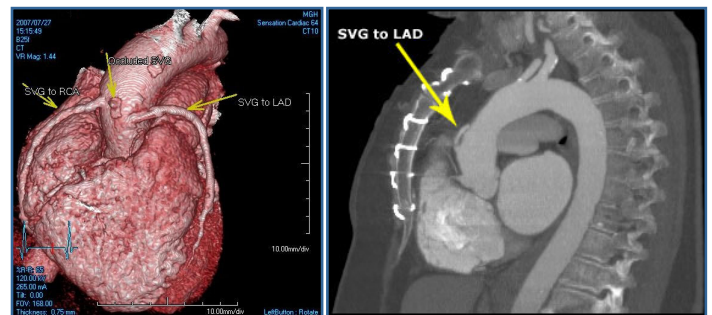
### Clinical History

A 72-year-old woman with a history of CAD and poorly controlled hypertension presented with left scapular pain in 1985 and was diagnosed with an inferior wall myocardial infarction. She underwent emergent three vessel coronary artery bypass surgery, involving a SVG-RCA, a SVG-LAD, and a SVG-OM2. The patient remained at her baseline until July of 2007, when she presented with malignant hypertension and recurrent scapular pain. Her presenting biomarkers and ECG were unremarkable.

### Findings

A 64-slice retrospectively ECG-gated contrast-enhanced cardiac CT was performed to evaluate graft patency and to exclude a thoracic aortic dissection. The volume rendered images show the patient's three vessel coronary artery bypass grafts. The SVG-LAD and SVG-RCA bypass grafts remain patent. However, her SVG-OM2 graft is occluded. Maximum intensity projection (MIP) images revealed no evidence of an aortic dissection. Multi-planer reformatting (MPR) images revealed no myocardial perfusion abnormalities in the lateral wall, and her biomarkers remained within normal limits, suggesting that the SVG-OM2 occlusion was old; and was not the etiology behind her presentation.

Cardiac MDCT has a well established role in the assessment of acute aortic dissection, and several studies have suggested that non-invasive evaluation of bypass grafts by MDCT has a high negative predictive value, which may obviate the need to proceed with traditional coronary angiography. The assessment of myocardial perfusion by cardiac MDCT suggests that a comprehensive evaluation of morphology, function, and perfusion can be achieved with a single study.



A

B



C

**A.** Volume rendered image showing two patent grafts, and one occluded vein graft.  
**B.** MIP of thoracic aorta showing no evidence of aortic dissection.  
**C.** Thick MPR short-axis view of the left ventricle showing no evidence of a perfusion abnormality.

### REFERENCES

1. Isselbacher EM. Braunwald's Heart Disease 7th Edition p. 1415-1424
2. Meyer TS et al. J Am Coll Cardiol 2007;49 : 946-50
3. Cury RC et al. J Nuc Cardiol, 2007; 14: 229-43

Editors:

Suhny Abbara, MD

MGH Department of Radiology

Wilfred Mamuya, MD, PhD

MGH Division of Cardiology