Cardiac computed tomography in the evaluation of an intra-pericardial mediastinal mass

Tanyanan Tanawuttiwat1*, Tania Brice2, James F. Symes2, Iliya Khramov3, and Alan H. Schob1

1Cardiovascular Division, Department of Medicine, University of Miami Miller School of Medicine, 1611 NW 12th Street, Room# Central 409, Miami, FL 33136, USA; 2Cardiovascular and Thoracic Surgery, Department of Surgery, University of Miami Miller School of Medicine, Miami, FL, USA; and 3Department of Radiology, Miami VA Healthcare system, University of Miami Miller School of Medicine, Miami, FL, USA

* Corresponding author. Tel: +1 305 585 5540; fax: +1 305 585 7089, Email: ttanawuttiwat@med.miami.edu

Cardiac computed tomography (CCT) in the evaluation of an intra-pericardial mediastinal mass. An 82-year-old man being worked up for urothelial carcinoma was found on abdominal computed tomography to have a 4.1 × 3.8 cm discrete, non-enhancing, intra-pericardial mass adjacent to the right atrium (RA) (Panel A). A transthoracic echocardiogram disclosed a spherical, hypo-echoic mass adjacent to the RA in the five-chamber apical view (Panel B). The mass was separate from RA, confirmed by contrast echocardiography, and no flow was detected by Doppler. A CCT angiogram demonstrated a 3.5 cm in diameter by 6.5 cm in length aneurysm in the proximal segment of the right coronary artery (RCA). The RCA wall was calcified and mural thrombus filled the aneurysm cavity without luminal compression (Panel C). CCT clearly defined the lesion as well as the coronary anatomy and allowed us to manage the patient. Not only showing the precise dimension and location, CCT also demonstrated the thrombus burden, calcification, and degree of free-luminal stenosis inside the aneurysm. Mural thrombus can be clearly delineated in the giant aneurysm.

The radiological characteristics of the aneurysm in this patient, including the calcified wall and mural thrombus with a widely patent lumen of the RCA, suggested a low risk of rupture or embolization. Therefore, conservative management with interval follow-up by CCT was recommended in this elderly gentleman. This case illustrates the usefulness of CCT in evaluation of such patients and we recommend it as the first-line diagnostic study for mediastinal mass lesions in close proximity to the heart and pericardium.

Published on behalf of the European Society of Cardiology. All rights reserved. © The Author 2012. For permissions please email: journals.permissions@oup.com