

IMAGES IN INTERVENTION

Pre-Procedural Dual Source 64-Slice Computed Tomography in Unprotected Left Main Intervention

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The use of drug-eluting stents (DES) for unprotected left main coronary artery (UPLM) disease in patients who are candidates for coronary artery bypass graft (CABG) is controversial, although published registries indicate the procedural and in-hospital risks are acceptable and seem to be the

same or lower than the procedural risks of CABG (1,2). The UPLM lesion complexity is an important predictor of procedural outcome but is not always completely visualized by conventional coronary angiography. Pre-procedural, noninvasive dual source 64-slice computed tomography

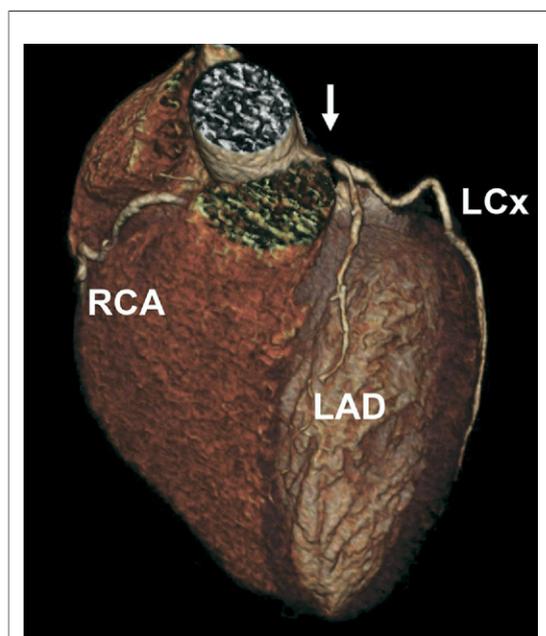


Figure 1. Volume-Rendered Dual-Source Computed Tomography

Significant stenosis of the unprotected left main coronary artery indicated by the **white arrow**. LAD = left anterior descending artery; LCx = circumflex artery; RCA = right coronary artery.



Figure 2. Multiplanar Dual-Source Computed Tomography

Unprotected left main coronary artery stenosis (indicated by **white arrow**) with a length of 13.5 mm, consisting of noncalcified tissue originating from the posterior aortic wall, and no significant disease in the proximal LAD and LCx. Abbreviations as in Figure 1.

(DSCT) coronary angiography might be helpful in patient selection and procedure planning in patients with UPLM considered for DES.

A 53-year-old woman with hypercholesterolemia and hypertension was hospitalized because of progressive angina. Coronary angiography in the referring hospital showed UPLM disease, but the diagnostic procedure was prematurely stopped because of catheter pressure damping and angina, after cannulation of the UPLM. Lesion complexity was inadequate

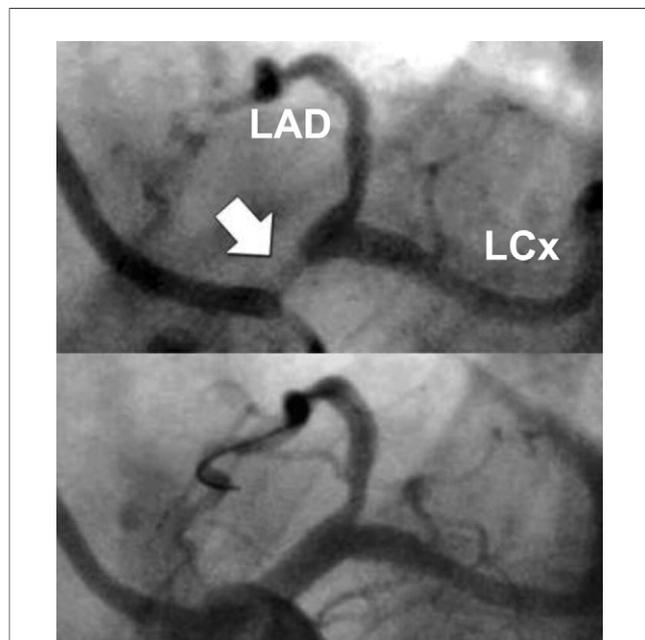


Figure 3. Coronary Angiogram (Left Anterior Oblique Caudal)

(Top) Significant stenosis of the unprotected left main coronary artery indicated by the **white arrow**. **(Bottom)** Result after drug-eluting stent treatment. Abbreviations as in Figure 1.

quately visualized by conventional coronary angiography. To evaluate the exact location, length, and composition of UPLM disease, DSCT was performed (Fig. 1). Standard and curved multiplanar reconstructed DSCT demonstrated a significant UPLM stenosis, with a length of 13.5 mm, consisting of noncalcified tissue originating from the posterior aortic wall, and no significant disease in the proximal left anterior descending artery (Fig. 2). With this additional information on lesion complexity, the treatment options were evaluated by the daily heart team conference by interventional cardiologists and cardiac surgeons. Because of the clinical characteristics and UPLM lesion characteristics assessed by DSCT, DES implantation was planned and performed successfully (Fig. 3).

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