

Cardiac Dual-source Computed Tomography for the Detection of Left Main Compression Syndrome in Patients with Pulmonary Hyper-tension

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Abstract

INTRODUCTION:

Left Main Compression Syndrome (LMCS) represents an entity described as the extrinsic compression of the left main coronary artery (LMCA) by a dilated pulmonary artery (PA) trunk. We examined the presence of LMCS in patients with pulmonary hypertension (PH) using dual-source computed tomography (DSCT), as a non-invasive diagnostic tool.

METHODS:

The following parameters were measured: PA trunk diameter (PAD), the distance between PAD and LMCA (LMPA) and the distance between PA and aorta (AoPA). These measurements were related with demographic, echocardiographic, hemodynamic and clinical parameters. Angiography was performed in two patients with LMCS suspected by cardiac computed tomographic angiography. Patients without PH but with angina were examined as controls, using DSCT cardiac angiography to assess the same measurements and to detect the prevalence of coronary artery disease.

RESULTS:

PA diameter value over 40.00 mm has been associated with PH and LMCS. Furthermore, LMCS did not occur at a distance smaller than 0.50 mm between the PA and the LMCA, and did not correlate with the distance between the PA and the aorta or with cardiac index and NT-proBNP.

CONCLUSION:

DSCT may represent the initial testing modality in PH patients with dilated PA trunk to exclude LMCS. A periodical rule-out of this rare entity, as assessed by DSCT, in patients with a severely dilated PA seems to be mandatory for PH patients contributing to survival improvement.