Ischemic Cardiopathy

Prevalence and Characteristics of Myocardial Bridging in Multidetector-Row Computed Tomography Coronary Angiography

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Background
Myocardial bridging (MB) are congenital defects of the coronary arteries in which a segment of an epicardial artery lies in the myocardium for part of its course. The current gold standard for diagnosing MB is coronary angiography; however other invasive techniques are also useful. Myocardial bridging can also be visualized with the use of novel non-invasive imaging techniques such as multidetector-row computed tomography coronary angiography (MDCT-CA).

Objectives
To assess the prevalence and characteristics of myocardial bridging in patients undergoing multidetector-row computed tomography coronary angiography MDCT-CA).

Material and Methods
A total of 452 consecutive patients were evaluated with 16-row and 64-row MDCT-CA due to the presence of abnormal findings in myocardial perfusion image tests, symptoms suggestive of coronary artery disease, and in asymptomatic patients with a family history of coronary artery disease. The presence of MB, their location and characteristics were analyzed. Myocardial bridging were classified as complete and incomplete bridges with respect to continuity of the myocardium over the tunneled segment of the artery involved. Quantitative measurements of vessel diameter during systole and diastole were evaluated.

Results
The prevalence of MB was 35.18%; 88 were complete and 71 incomplete. Among complete MB, 6 affected both systole and diastole, 27 presented only systolic compression and 55 showed no compression. Incomplete MB showed absence of arterial compression.

Conclusions
Multidetector-row computed tomography coronary angiography detected a higher prevalence of MB in the study population and allowed to classify them and to assess their functional aspects throughout the cardiac cycle.