

Myocardial Bridging Does Not Increase Cardiac Risk in Patients With Chest Pain But no Obstructive Coronary Disease: A 64 Slice Coronary CTA Study

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Background: Isolated reports have associated coronary myocardial bridging (MB) with adverse cardiac events. However, the clinical significance of MB in unselected pts with chest pain remains unclear. We explored the relation between the presence of MB and subsequent adverse cardiac events in symptomatic pts referred for coronary CT angiography (CCTA).

Methods: 350 pts with chest pain but no known coronary artery disease (CAD) underwent CCTA (Brilliance 64, Philips). 16 pts with obstructive CAD on CCTA (>50% narrowing) were excluded from analysis. Pts were followed for cardiovascular (CV) death or myocardial infarction (MI) over 4.2±0.4 years. Outcomes were compared between pts with MB (intra-myocardial segment of a major epicardial coronary artery) vs pts with non-obstructive/no atheroma and no MB using Cox models.

Results: 334 pts were studied (age: 57±13 years, 43% female). 117/334 (35%) had MB on CCTA. CV death or MI occurred in 11 patients (incidence of 0.8%/year), in 5/117 (4%) pts with MB, and in 6/217 (2.8%) pts without MB (p=NS). Univariate predictors of CV death or MI were: non-obstructive coronary atheroma (HR=4.2, p=0.02), diabetes mellitus (HR=5.9, p=0.007), and hypertension (HR=18, p=0.0001). MB was not associated with increased risk of events. The association of non-obstructive coronary atheroma and of hypertension with adverse CV events remained statistically significant after controlling for other variables.

Conclusions: 1. MB is common among pts with chest pain, but without obstructive CAD undergoing CCTA. 2. MB was not associated with increased risk for CV death or MI during 4 years of follow-up. 3. Non-obstructive coronary atheroma and hypertension were independent predictors of adverse outcomes.