

Myocardial bridging: depiction rate and morphology at CT coronary angiography-- comparison with conventional coronary angiography

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PURPOSE: To prospectively assess the depiction rate and morphologic features of myocardial bridging (MB) of coronary arteries with 64-section computed tomographic (CT) coronary angiography in comparison to conventional coronary angiography. **MATERIALS AND METHODS:** Patients were simultaneously enrolled in a prospective study comparing CT and conventional coronary angiography, for which ethics committee approval and informed consent were obtained. One hundred patients (38 women, 62 men; mean age, 63.8 years \pm 11.6 [standard deviation]) underwent 64-section CT and conventional coronary angiography. Fifty additional patients (19 women, 31 men; mean age, 59.2 years \pm 13.2) who underwent CT only were also included. CT images were analyzed for the direct signs length, depth, and degree of systolic compression, while conventional angiograms were analyzed for the indirect signs step down-step up phenomenon, milking effect, and systolic compression of the tunneled segment. Statistical analysis was performed with Pearson correlation analysis, the Wilcoxon two-sample test, and Fisher exact tests. **RESULTS:** MB was detected with CT in 26 (26%) of 100 patients and with conventional angiography in 12 patients (12%). Mean tunneled segment length and depth at CT ($n = 150$) were 24.3 mm \pm 10.0 and 2.6 mm \pm 0.8, respectively. Systolic compression in the 12 patients was 31.3% \pm 11.0 at CT and 28.2% \pm 10.5 at conventional angiography ($r = 0.72$, $P < .001$). With CT, a significant correlation was not found between systolic compression and length ($r = 0.16$, $P = .25$, $n = 150$) but was found with depth ($r = 0.65$, $P < .01$, $n = 150$) of the tunneled segment. In 14 patients in whom MB was found at CT but not at conventional angiography, length, depth, and systolic compression were significantly lower than in patients in whom both modalities depicted the anomaly ($P < .001$, $P < .01$, and $P < .001$, respectively). **CONCLUSION:** The depiction rate of MB is greater with 64-section CT coronary angiography than with conventional coronary angiography. The degree of systolic compression of MB significantly correlates with tunneled segment depth but not length.

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