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PROGNOSTIC IMPLICATIONS OF NON-OBSTRUCTIVE CORONARY PLAQUES IN PATIENTS WITH NON-ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION - A MULTIDETECTOR COMPUTED TOMOGRAPHY STUDY

ACC Poster Contributions
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Authors: *Klaus F. Kofoed, Thomas S. Kristensen, Tobias Kühl, Walther B. Nielsen, Michael B. Nielsen, Henning Kelbæk, Department of Cardiology, Rigshospitalet, Copenhagen, Denmark, Department of Radiology, Rigshospitalet, Copenhagen, Denmark*

Background: Patients presenting with non-ST-segment elevation myocardial infarction (NSTEMI) frequently have multiple coronary plaques. We sought to determine whether the amount of non-calcified plaque in non-obstructive coronary lesions was a predictor of future coronary events as detected by multidetector computed tomography (MDCT).

Methods: We included 312 consecutive patients presenting with NSTEMI, who underwent 64-slice MDCT coronary angiography. All patients subsequently underwent invasive coronary angiography and were revascularized according to current guidelines. Quantitative measurements of plaque composition and volume were performed in all non-obstructive coronary lesions. The endpoint was cardiac death, acute coronary syndrome or symptom driven revascularization.

Results: After a median follow-up of 16 months 23 cardiac events had occurred. In a multivariate Cox regression analysis adjusting for age, left ventricular ejection fraction, diabetes, number of diseased vessels and previous myocardial infarction, the total amount of non-calcified plaque in non-obstructive lesions was associated with an increased hazard ratio (1.15 per 100 mm3 plaque volume increase, p=0.01). The amount of calcium in non-obstructive lesions was not associated with an increased risk.

Conclusions: Plaque imaging of non-obstructive lesions with MDCT identified patients at an increased risk after NSTEMI, despite optimal invasive treatment.