

Can Benefit be Expected from Further Risk Factor Modification in Treated Diabetics with Pre-clinical Coronary Artery Disease? A 64 Slice Coronary CT Angiography Study

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Background and aims: Coronary artery disease (CAD) is a primary cause of mortality and morbidity in type 2 diabetes mellitus (DM) but is often deeply ingrained before symptoms occur due to non-modifiable risk factors (age, gender, duration of DM, past smoking) despite standard preventive medical therapy. In order to better define targets for further intervention in a cohort of well-treated diabetics with no known CAD we examined the correlation of treatable risk factors with pre-clinical coronary atheroma on 64 slice coronary CT angiography (CCTA).

Methods: Pts with hemoglobin A1C<7.0% and treated with statins and ACE inhibitors were selected (N=100) from 554 asymptomatic diabetics without known CAD undergoing CCTA in an ongoing prospective outcomes study (age 64.4±5.3 yrs, 54% women, mean duration of DM 8.3±7.1 yrs, clinic BP 140±18/81±10). Modifiable risk factors for coronary atheroma (current smoking, HbA1C, systolic blood pressure, total cholesterol/HDL-C ratio, waist circumference) were examined for their independent correlation with multi-vessel coronary artery atheroma after adjusting for factors that were non-modifiable at time of study entry (age, gender, duration of DM, past smoking).

Results: After adjustment for non-modifiable risk factors systolic hypertension was the only independent modifiable risk factor for coronary atheroma (odds ratio 1.35/10mmHg, 95%CI 1.07-1.6, p=0.015).

Conclusions: In asymptomatic diabetics >55 yrs with no history of CAD, DM for mean of 8 yrs and treated with guideline recommended therapy, clinic blood pressure remained an independent modifiable predictor of coronary artery atheroma on 64 slice CCTA.