



IMPACT OF MULTIPLE RISK FACTOR INTERVENTION ON PROGRESSION OF CORONARY ATHEROSCLEROSIS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

ACC Oral Contributions

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Background: Diabetic patients with coronary artery disease (CAD) demonstrate accelerated progression of coronary atherosclerosis. The impact of multiple risk factor intervention on disease progression has not been investigated.

Methods: 460 diabetic patients with angiographic CAD underwent serial intravascular ultrasound imaging to monitor the change in atheroma burden in 7 clinical trials. Disease progression was compared in patients stratified according to whether they achieved increasing numbers of treatment goals of individual risk factors (HbA1c<7.0%, LDL-C <100mg/dL, triglyceride<150mg/dL, systolic blood pressure <130mmHg, CRP <2.0mg/L).

Results: A high rate of established medical therapies was used in all patients (89% statins, 94% aspirin, 76% β -blockers, 66% ACE inhibitors, 66% metformin, 62% TZD, 17% insulin). No differences were observed with regard to percent atheroma volume (PAV) and total atheroma volume (TAV) at baseline. On serial evaluation slowing of progression of PAV ($p=0.011$) and TAV ($p<0.001$) was observed with increasing the number of risk factors achieving treatment goals. On multivariable analysis adjusting for baseline risk factors, increasing the number of factors meeting treatment goals continued to be associated with a beneficial impact on progression of PAV ($p=0.031$) and TAV ($p<0.001$) (Table).

Conclusions: The benefit of achieving optimal control of multiple risk factors highlights the need for modification of global risk in patients with diabetes.

Table

	no goals (n=28)	HbA1c<7% + 0-1 risk factors (n=100)	HbA1c<7% + 2 risk factors (n=117)	HbA1c<7% + 3 risk factors (n=131)	HbA1c<7% + 4 risk factors (n=83)	p-value
Baseline						
baseline percent atheroma volume (%)	38.9 ± 9.4	38.2 ± 7.2	39.5 ± 8.5	39.4 ± 8.9	39.9 ± 8.2	0.662
baseline total atheroma volume (mm ³)	200.9 ± 90.9	194.6 ± 75.1	200.8 ± 86.1	188.7 ± 89.0	195.2 ± 92.3	0.709
Serial Change						
change in percent atheroma volume (%)	1.43 ± 0.55	0.97 ± 0.29	0.24 ± 0.28	0.27 ± 0.27	0.20 ± 0.36	0.011
change in total atheroma volume (mm ³)	8.24 ± 4.14	2.48 ± 2.72	-1.91 ± 2.69	-2.55 ± 2.64	-6.69 ± 3.12	<0.001
Adjusted Serial Change						
change in percent atheroma volume (%)	1.56 ± 0.57	0.92 ± 0.29	0.21 ± 0.26	0.30 ± 0.25	0.14 ± 0.37	0.001
change in total atheroma volume (mm ³)	8.03 ± 4.28	2.38 ± 2.73	-0.66 ± 2.58	-1.69 ± 2.55	-7.47 ± 3.14	<0.001