MYOCARDIAL ISCHEMIA AND INFARCTION

TYPE 2 DIABETES SIGNIFICANTLY MODULATES THE IMPACT OF LOW LEFT VENTRICULAR EJECTION FRACTION ON THE RISK OF CARDIOVASCULAR EVENTS

ACC Poster Contributions
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Background: We aimed at prospectively investigating the impact of the left ventricular ejection fraction (LVEF) and of angiographically verified coronary artery disease (CAD) on the risk of cardiovascular events in patients with type 2 diabetes (T2DM) and in non-diabetic subjects.

Methods: Cardiovascular events were recorded over 8 years in 629 consecutive patients undergoing coronary angiography for the evaluation of established or suspected stable CAD. At the baseline angiography, significant CAD was diagnosed in the presence of significant coronary stenoses with lumen narrowing >=50%, and the baseline LVEF was determined invasively by ventriculography.

Results: The baseline prevalence of significant CAD was higher (68.6% vs. 55.5%; p = 0.006) in patients with T2DM (n = 137) than in non-diabetic subjects (n = 492); the baseline LVEF was similar in these two patient subgroups (65±15% vs. 67±15%; p = 0.253). Prospectively, significant CAD (HR = 2.07 [1.50-2.88]; p <0.001) and the LVEF (standardised HR = 0.79 [0.71-0.88]; p <0.001) after multivariable adjustment both proved significantly predictive of cardiovascular events in a mutually independent manner. The incidence of vascular events was significantly higher in patients with T2DM than in non-diabetic subjects (43.8% vs. 30.1%; p = 0.003). In analyses with respect to the diabetes status, the LVEF strongly and significantly predicted cardiovascular events in non-diabetic subjects (HR = 0.72 [0.62-0.82]; p <0.001) but not in patients with T2DM (1.00 [0.75-1.22]; p = 0.711). An interaction term LVEF*T2DM was significant (p = 0.047), indicating that the cardiovascular risk conferred by a low LVEF was significantly higher in non-diabetic subjects than in patients with T2DM. The presence of significant CAD proved significantly and independently predictive of vascular events both in non-diabetic subjects and in patients with T2DM (HRs 1.84 [1.26-2.67]; p = 0.001 and 2.45 [1.18-5.06]; p = 0.016, respectively).

Conclusion: From the results of this 8-year prospective cohort study we conclude that T2DM significantly modulates the cardiovascular risk conferred by a low left ventricular ejection fraction.