

Type 2 Diabetes, Chronic Kidney Disease And Major Cardiovascular Events In Patients With Established Coronary Artery Disease

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Background and Aim of the Study

Both type 2 diabetes (T2DM) and chronic kidney disease (CKD) confer a high risk of cardiovascular disease (CVD), and these conditions frequently coincide. The aim of this study was to investigate the single and joint effects of T2DM and CKD on major cardiovascular events (MACE) in a high-risk population of patients with established coronary artery disease (CAD).

Patients and Methods

We prospectively investigated 1460 patients with angiographically proven CAD over 10.4±4.8 years, of whom 454 (30.8%) had T2DM and 251 (17.1%) had CKD.

Conclusion

We conclude that T2DM and CKD are mutually independent risk factors for MACE in patients with established CAD. CAD patients with both CKD and T2DM are at an extremely high risk for MACE.

Results

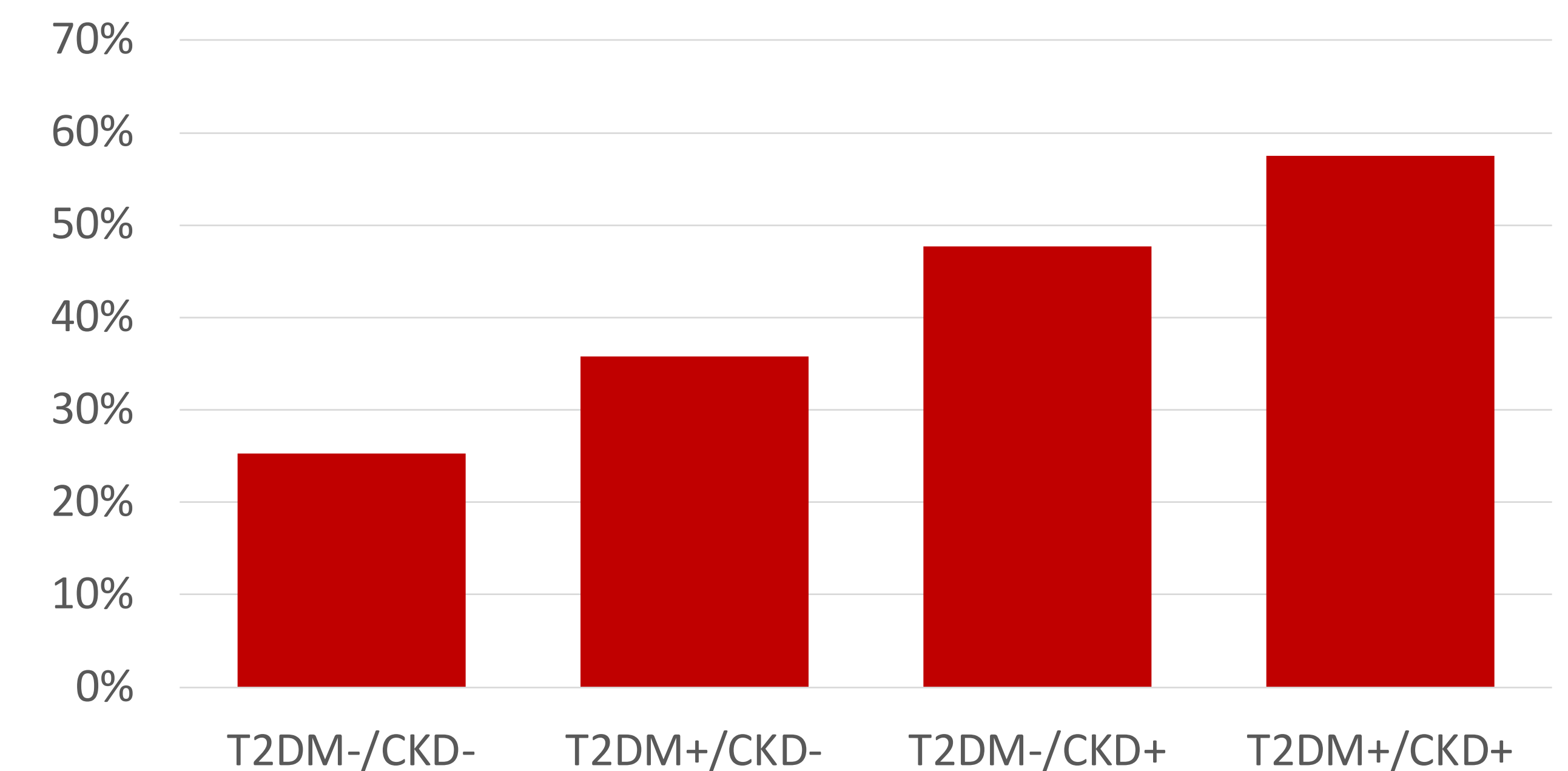
MACE occurred more frequently in T2DM patients than in non-diabetic subjects (40.4% vs. 28.7%, $p < 0.001$) and in patients with CKD (eGFR $< 60 \text{ ml/min/1.73m}^2$) than in those with an eGFR $\geq 60 \text{ ml/min/1.73m}^2$ (51.6% vs 28.3%, $p < 0.001$).

When compared with the incidence of MACE among patients with neither T2DM nor CKD (25.3%), MACE occurred more frequently in patients with T2DM who did not have CKD (35.8%; $p < 0.001$) as well as in non-diabetic patients with CKD (47.6%; $p < 0.001$) and occurred most frequently in patients with both, T2DM and CKD (57.4%; $p < 0.001$).

In Cox regression analysis, T2DM (HR=1.46 [1.20-1.78]; $p < 0.001$) and CKD (HR=1.81 [1.45-2.27]; $p < 0.001$) were mutually independent predictors of MACE after multivariate adjustment.

Figures

Incidence of MACE



Cox regression

