

Type 2 Diabetes And Risk Of Major Cardiovascular Events In Peripheral Artery Disease Versus Coronary Artery Disease Patients

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Background and Aim of the Study

The prevalence of type 2 diabetes (T2DM) is higher in peripheral artery disease (PAD) than in coronary artery disease (CAD) patients, and PAD overall confers higher cardiovascular risk than CAD. How the incidence of major cardiovascular events compares between PAD and CAD patients when analyses are stratified by the presence of type 2 diabetes (T2DM) is unclear and is addressed in the present study.

Patients and Methods

We prospectively recorded major cardiovascular events and death over 10.0±4.7 years in 923 patients with stable CAD, of whom 26.7% had T2DM and in 292 patients with PAD, of whom 42.1% had T2DM. Four groups were analyzed: CAD patients without diabetes (CAD/T2DM-; n=677), CAD patients with T2DM (CAD/T2DM+; n=246), PAD patients without diabetes (PAD/T2DM-; n=169) and PAD patients with T2DM (PAD/T2DM+; n=123).

Conclusion

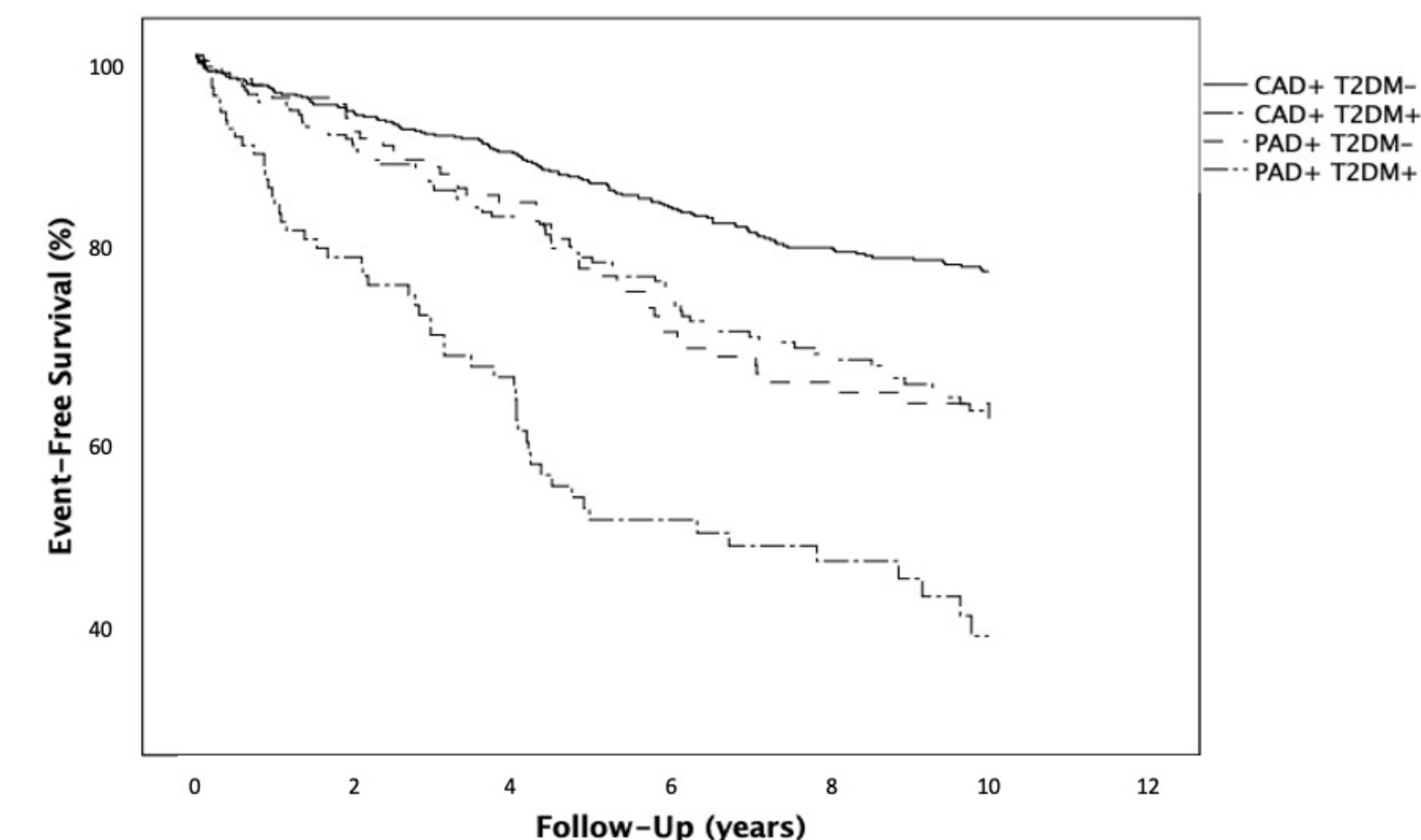
In conclusion, our data show that T2DM and the presence of PAD are mutually independent predictors of MACE. Patients with both PAD and T2DM are at an exceedingly high risk of MACE.

Figures

Baseline characteristics

	CAD			PAD		
	T2DM- n=677	T2DM+ n=246	p	T2DM- n=169	T2DM+ n=123	p
Age (years)	64.4±10.4	64.9±10.2	0.658	65.4±9.3	66.7±9.9	0.442
Male gender (%)	70.2	69.9	0.943	68.0	74.8%	0.210
Diabetes duration (years)		5.0±7.0			7.1±8.7	
Hypertension (%)	80.1	85.4	0.067	91.7	92.7	0.762
Smoking (%)	56.1	61.8	0.124	82.8	82.1	0.872
Body mass index (kg/m ²)	27.0±3.9	28.8±4.5	<0.001	26.2±4.3	28.3±4.9	<0.001
HbA1c (%)	5.7±0.3	7.2±1.3	<0.001	5.6±0.3	7.2±1.5	<0.001
Triglycerides (mg/dl)	139±90	175±103	<0.001	135±78	162±100	0.180
Total cholesterol (mg/dl)	213±46	204±47	0.005	192±39	182±52	0.160
LDL _a cholesterol (mg/dl)	137±40	126±39	<0.001	119±36	111±44	0.240
HDL _b cholesterol (mg/dl)	55±16	49±14	<0.001	57±18	48±15	<0.001
Systolic blood pressure (mmHg)	137±19	139±20	0.346	141±22	143±25	0.421
Diastolic blood pressure (mmHg)	81±10	81±12	0.638	80±11	81±14	0.898

Incidence of MACE



Results

When compared to the incidence of MACE in CAD+/T2DM- patients (25.1%), it was significantly higher in CAD+/T2DM+ patients (35.4%; p<0.001), in PAD+/T2DM- patients (30.2%; p=0.022) and in PAD+/T2DM+ patients (47.2%; p<0.001). Patients with both PAD and T2DM in turn were at a higher risk than CAD+/T2DM+ or PAD+/T2DM- patients (p=0.001 and p<0.001, respectively). The incidence of MACE did not differ significantly between PAD+/T2DM- and CAD+/T2DM+ patients (p=0.413).

Compared to patients with CAD, Cox regression analyses after multivariate adjustment showed an adjusted hazard ratio of 1.46 [1.14-1.87], p=0.002 for the presence of PAD. Conversely, T2DM increased the risk of MACE after multivariate adjustment in CAD and PAD patients (adjusted HR 1.58 [1.27-1.98], p<0.001).