

Supplemental Methods

Data sources

The following nationwide, mandated-by-law registry data were collected and combined from all study patients:

- All hospital admissions, all outpatient visits in specialist medical care, and all emergency room admissions (International Classification of Diagnosis / ICD-10) and operational codes (Nordic Classification of Surgical Procedures) collected from the CRHC registry. Received from the National Institute for Health and Welfare of Finland. Available from Jan 1st 2004.
- Cancer data from the Finnish Cancer Registry. Received from the National Institute for Health and Welfare of Finland. Available from Jan 1st 1980.
- Prescription medication purchases including Anatomical Therapeutic Chemical (ATC)-codes and purchase dates. Received from the National Institute for Health and Welfare of Finland (Findata). Available from Jan 1st 2004.
- Entitlements to special reimbursements for prescription medications including entitlement codes and underlying ICD diagnoses. Received from the National Institute for Health and Welfare of Finland (Findata). Available from Jan 1st 1964.
- Mortality data including date and causes of death. Received from the Statistics Finland. Available from Jan 1st 2005.

Co-morbidities and complications of diabetes were detected from the data of index MI admission and data available prior to index MI. Revascularization was detected from the data of index MI admission.

Propensity matching

Propensity score was re-calculated for hospital surviving patients. Patients with type 1 diabetes in the original matched cohort were 1:1 matched with hospital surviving controls without any type of diabetes using the nearest neighbor (NN) method that retained all hospital surviving patients with type 1 diabetes.

As a sensitivity analysis, all patients with type 1 diabetes were 1:1 matched with controls without diabetes using the original propensity score and nearest neighbor (NN) method that retained all patients with type 1 diabetes.

Supplemental Results

Propensity score matching of hospital surviving MI patients resulted in 1,552 pairs of patients with type 1 diabetes and without diabetes but with comparable baseline features (Supplement Table 1). In matched hospital surviving patients, the one-year case fatality was 12.8% in the type 1 diabetes group versus 8.8% in the control group (HR 1.49; CI 1.19-1.87; $p=0.001$).

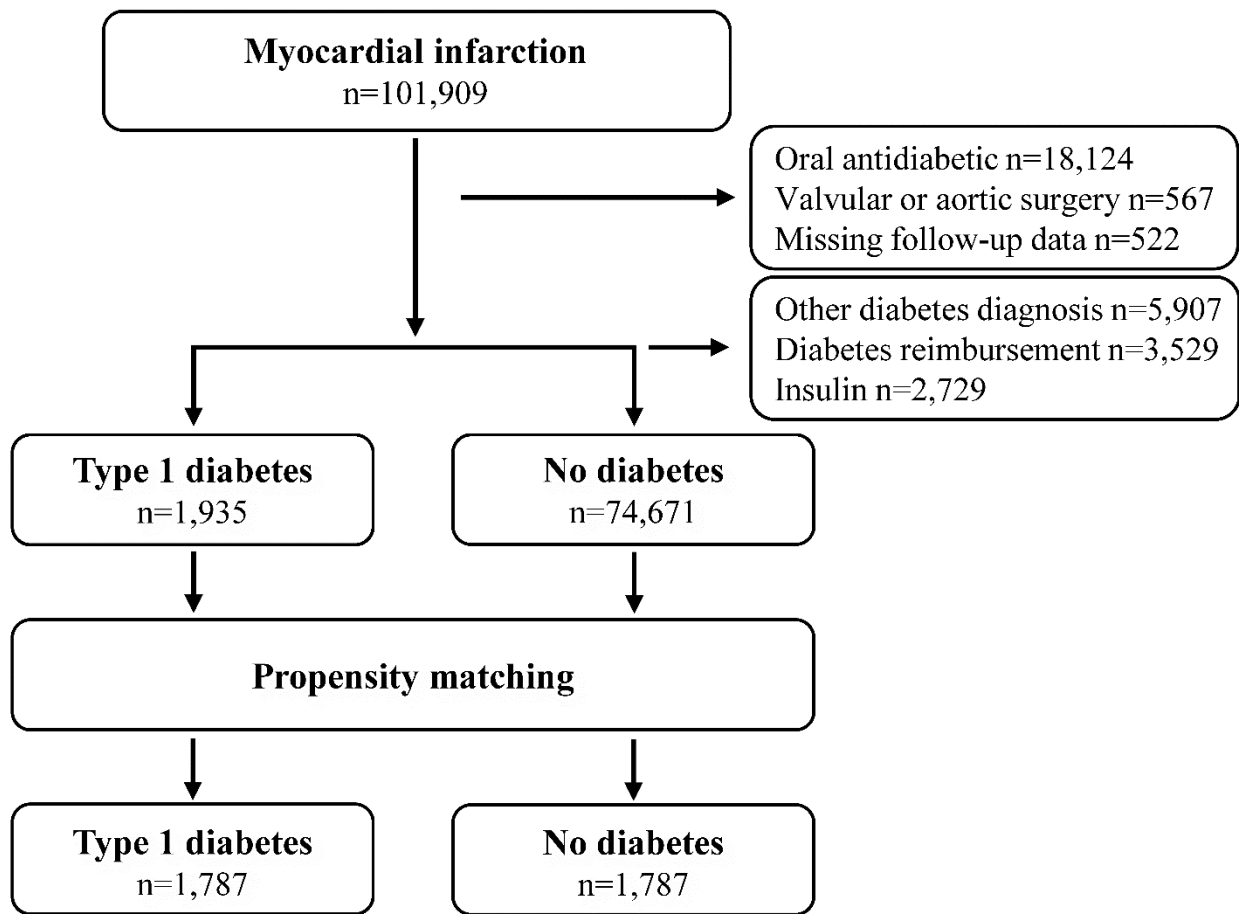
The NN matching of all patients with type 1 diabetes resulted in 1,935 pairs of patients with type 1 diabetes and without diabetes (Supplement Table 2). The duration of hospital stay after MI was longer in patients with type 1 diabetes (median: 7 days; IQR: 4–14 days) than in the NN-matched controls (median: 5 days; IQR: 3–10; $p<0.0001$). Thirty-day case fatality was 12.7% in the type 1 diabetes group and 8.4% in the NN-matched control group ($p<0.0001$). The one-year case fatality in the NN-matched cohort was 25.1% in the type 1 diabetes group versus 17.0% in the matched control group (HR 1.54; CI 1.32-1.78; $p<0.0001$). The E-value for one-year case fatality in the NN-matched cohort was 2.5 (CI 2.0–3.0).

Variable	Matched hospital surviving patients			
	Type 1 diabetes n=1,552	No diabetes n=1,552	P-value	SMD
Age, years (SD)	62.4 (12.4)	62.4 (13.8)	0.980	0.001
Women	40.2%	39.8%	0.763	0.009
Co-morbidities				
Alcohol abuse	4.6%	5.4%	0.344	0.033
Atrial fibrillation	11.7%	11.9%	0.863	0.006
Cerebrovascular disease	17.0%	17.7%	0.574	0.019
Chronic pulmonary disease	12.1%	11.5%	0.593	0.018
Dementia	3.5%	4.0%	0.441	0.027
Heart failure	31.8%	32.0%	0.893	0.004
Diabetic retinopathy or glaucoma	40.0%	-	-	
Diabetic hypoglycemic coma	11.2%	-		
Diabetic neuropathy	10.6%	-	-	
Diabetic ketoacidosis	7.6%	-	-	
Hypertension	71.1%	70.4%	0.529	0.016
Liver disease	2.4%	2.4%	1.000	<0.0001
Malignancy	11.1%	11.5%	0.706	0.012
Paralysis	1.0%	1.0%	0.853	0.007
Peripheral vascular disease	24.5%	24.4%	0.923	0.003
Prior CABG	7.1%	7.7%	0.519	0.022
Prior MI	20.2%	19.9%	0.805	0.008
Psychotic disorder	3.4%	3.7%	0.626	0.018
Rheumatic disease	6.8%	7.5%	0.419	0.027
Renal failure	19.7%	18.4%	0.215	0.033
Valvular disease	5.7%	5.7%	1.000	<0.0001
Revascularization	58.6%	59.5%	0.568	0.017
PCI	49.5%	50.5%	0.511	0.019
CABG	11.3%	11.2%	0.948	0.002
ST-elevation MI	30.4%	31.7%	0.409	0.024
Anterior MI*	53.3%	51.0%	0.342	0.028
University hospital	55.0%	56.1%	0.467	0.022
Year of MI			0.417	0.020

Supplemental Table 1. Baseline features of hospital surviving myocardial infarction patients with type 1 diabetes (included in the original matched cohort) and 1:1 matched control patients without diabetes. CABG = coronary artery bypass grafting surgery, MI = myocardial infarction, PCI = percutaneous coronary intervention, SMD = standardized mean difference. *of ST elevation MI patients.

Variable	Matched patients (nearest neighbor)			
	Type 1 diabetes n=1,935	No diabetes n=1,935	P-value	SMD
Age, years (SD)	62.5 (12.6)	63.3 (14.1)	0.013	0.062
Women	40.6%	40.3%	0.816	0.006
Co-morbidities				
Alcohol abuse	5.0%	5.0%	0.424	0.026
Atrial fibrillation	12.1%	12.5%	0.702	0.011
Cerebrovascular disease	19.5%	19.1%	0.726	0.011
Chronic pulmonary disease	12.4%	12.3%	0.915	0.003
Dementia	4.1%	4.3%	0.747	0.010
Heart failure	37.3%	37.1%	0.902	0.003
Diabetic retinopathy or glaucoma	40.9%	-	-	-
Diabetic hypoglycemic coma	11.8%	-		
Diabetic neuropathy	10.8%	-	-	-
Diabetic ketoacidosis	8.4%	-	-	-
Hypertension	73.8%	71.7%	0.032	0.048
Liver disease	3.3%	3.1%	0.710	0.012
Malignancy	11.5%	13.0%	0.116	0.046
Paralysis	1.0%	0.8%	0.612	0.016
Peripheral vascular disease	29.9%	27.2%	0.029	0.060
Prior CABG	7.8%	7.6%	0.800	0.008
Prior MI	22.2%	21.6%	0.615	0.015
Psychotic disorder	3.4%	3.5%	0.861	0.006
Rheumatic disease	7.1%	8.9%	0.031	0.069
Renal failure	27.0%	23.6%	0.001	0.080
Valvular disease	5.9%	5.5%	0.566	0.018
Revascularization	54.0%	55.3%	0.320	0.026
PCI	43.9%	44.5%	0.655	0.011
CABG	11.1%	11.6%	0.481	0.020
ST-elevation MI	30.4%	31.7%	0.262	0.029
Anterior MI*	52.7%	49.5%	0.298	0.032
University hospital	53.9%	55.5%	0.240	0.031
Year of MI			0.705	0.006

Supplemental Table 2. Baseline features of myocardial infarction patients with type 1 diabetes in the original cohort and 1:1 nearest neighbor method matched control patients without diabetes. CABG = coronary artery bypass grafting surgery, MI = myocardial infarction, PCI = percutaneous coronary intervention, SMD = standardized mean difference. *of ST elevation MI patients.



Supplemental Figure 1. Study flow-chart.