Abstract: **P6400**

**Risk for heart failure after acute myocardial infarction, a nationwide report on 73 303 patients with and without diabetes 2012-2017 in the SWEDHEART-SCAAR-registry.**

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**Topic(s):**
Acute Coronary Syndromes – Epidemiology, Prognosis, Outcome

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Background: Impressive improved one-year survival rates after acute myocardial infarction (AMI) have been achieved the last decades while long-term cardiovascular events still are a challenge particularly when diabetes is present. Recently several glucose lowering drugs with preventive effects on heart failure (HF) and MACE have entered the market however still used in low proportion by cardiologists.

Purpose: To explore the real-life complication rates of HF after AMI in patients with and without diabetes.

Methods: All patients with AMI admitted for coronary angiography in Sweden 2012-2017 were followed for time to first hospitalisation with HF diagnosis (ICD-10 code I50) until December 2017. Kaplan-Meier curves were used to estimate the cumulative heart failure event stratified by previous MI. Hazard ratios (HR) were calculated in a Cox proportional hazard regression model adjusting for age, gender, smoking, creatinine, previous CABG/cancer/dementia/dialysis/hypertension/COPD/renal failure/stroke, year, indication, hospital, angiographic findings, primary decision after angiography, cardiac chock, medications at discharge.

Results: Of 73 303 patients, mean age was 69 years (SD±12), 69% were men and 24% had diabetes. In all, HF occurred in 14% with a higher rate in patients with diabetes than those without (22% vs 12%). The highest HF rates were seen in patients with previous MI (33% if diabetes was present vs. 23% if no diabetes). After adjustments, patients with diabetes without previous MI had about the same HF risk (HR 1.52 [95% CI 1.44-1.61]) as patients without diabetes with previous MI (1.48 [1.40-1.57]) where patients without diabetes and previous MI served as a reference. The same pattern was seen regardless of STEMI/NSTEMI and also after excluding patients with previous HF (n=4567, 6%; Figure; patients with diabetes without previous MI 1.48 [1.40-1.57] and patients without diabetes with previous MI 1.27 [1.19-1.36]).

Conclusion: Heart failure is a common complication after AMI in patients with diabetes, particularly if previous MI, and regardless of previous reported heart failure. Diabetes increases the risk of heart failure by 30-50% compared to those without diabetes. These data indicate the existence of a large diabetes population at heart failure risk after AMI where heart failure protective glucose lowering drugs could be suitable.
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Risk for heart failure after acute myocardial infarction, a nationwide report on 73,303 patients with and without diabetes 2012-2017 in the SWEDEHEART-SCAAR registry.

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Conclusion: Heart failure is a common complication after AMI in patients with diabetes, particularly if previous MI, and regardless of previous reported heart failure. Diabetes increases the risk of heart failure by 30–50% compared to those without diabetes. These data indicate the existence of a large diabetes population at heart failure risk after AMI where heart failure protective glucose lowering drugs could be suitable.