

Improved outcomes despite poor adherence to guidelines in diabetic patients with ST-elevation-myocardial infarction: insights from a nationwide registry 1997–2006

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Aim: To address adherence to guidelines and trends in outcomes of diabetic (DM) patients (pts) and non-diabetic (NDM) pts presenting with STEMI.

Methods: We performed a retrospective analysis of prospectively acquired data of 2569 DM and 10'943 NDM pts presenting with STEMI enrolled in the nationwide AMIS (Acute Myocardial Infarction in Switzerland) Plus registry between 1997 and 2006. Adherence to guidelines was assessed by a score (1 to 8) based on 8 pieces of information: use of aspirin, thienopyridines (post percutaneous coronary intervention [PCI]) and glycoprotein IIb/IIIa receptor antagonists (in patients undergoing PCI), betablockers, ACE-inhibitors or AT-II antagonists, statins, heparin or low-molecular-weight-heparin, and reperfusion therapy). Primary outcome measures were the rates of reinfarction, cardiogenic shock during hospital stay, and in-hospital mortality).

Results: Overall, DM pts had a lower guidelines-adherence-score than NDM pts 4.4 (\pm 2.0) vs. 4.9 (\pm 1.9) ($P < 0.0001$), although it improved over time (from 2.9 \pm 1.3 to 6.1 \pm 1.9) ($P < 0.001$). Specifically, the use of reperfusion therapy (thrombolysis or primary PCI) in DM increased from 42.3% in 1997 to 80.5% in 2006 but still remained significantly lower compared to NDM even after adjusting for age (OR 0.63 [95% CI 0.57–0.69]). In-hospital outcomes dramatically improved over the years in this population:

Complications	1997	2006	OR*	P value
Reinfarction	7.2%	0.6%	0.87	<0.001
Shock	19.2%	6.4%	0.85	<0.001
Mortality	19.9%	8.8%	0.90	<0.001

*adjusted odds ratio pro additional admission year

Nevertheless, DM remained an independent predictor of mortality (age-adjusted OR 1.7 [1.5–2.0]). In multivariate analysis, reperfusion therapy was associated with a marked mortality reduction in DM (adjusted OR 0.52 [0.36–0.75]).

Conclusions: The outcomes of DM pts with STEMI dramatically improved during the past decade. However, adherence to guidelines remained lower. Specifically, DM pts received 38% less reperfusion therapy than NDM pts. Ironically, reperfusion therapy was associated with a halving of mortality in the diabetic population.