

SWISS YOUNG WOMEN HAVE A HIGHER RISK OF IN-HOSPITAL DEATH AFTER ADMISSION FOR ACUTE MYOCARDIAL INFARCTION.

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Background: Several studies have suggested that in-hospital mortality after acute myocardial infarction (AMI) was higher among women than among men. Whether this is true for Switzerland and whether other unfavorable prognostic factors explain a higher fatality among younger women remained to be investigated.

Methods: This retrospective study was conducted with the AMIS (Acute Myocardial Infarction in Switzerland) database for the years 1997 to 1999. The AMIS database is a nationwide database that collects information on AMI management in Swiss hospitals. Data are entered through an internet site, on a volunteer basis, by physicians involved in the treatment of patients admitted for AMI. Variables include demographic and clinical data, and information on in-hospital severity, evolution and treatment of the AMI. The association between mortality, sex and other independent variables was explored by means of logistic regression both in univariate and multivariate modeling. Variables for which univariate association with mortality reached a significance of at least 0.2 were entered in a multivariable model. Backward stepwise elimination was performed, eliminating the least significant variable at each step, until all remaining variables had a significance of 0.05 or less.

Results: 4839 cases (3475 men; 1364 women) were entered in the database. In-hospital death occurred in 529 cases (overall mortality 10.9%). Mortality was similar between men and women except for patients aged less than 60 (n=1536) among whom women experienced higher death rate (16/229, 7.0%) than men (31/1307, 2.4%) (p<0.001). In this age group, women had more frequently a history of hypertension (44% vs. 34%, p=0.005), took more frequently beta-blockers (23% vs. 15%, p=0.002) and ACE-inhibitors (13% vs. 9% p=0.05) before hospitalization than men. They also received beta-blockers less frequently than men during hospitalization (74% vs. 81%, p=0.02). However increased mortality among women remained statistically significant in this age group after adjustment (Table).

Variable	Adjusted Odds-ratio of death (95% CI)	p value
Sex (Women vs. Men; < 60 years old)	3.1 (1.5 – 6.2)	0.002
History of hypertension	1.3 (1.0 – 1.5)	0.02
Regularly taking a beta-blocker	0.5 (0.2 – 0.9)	0.03
Regularly taking an ACE-inhibitor	2.9 (1.5 – 5.9)	0.002
Systolic blood pressure < 90 mmHg on admission	3.1 (1.0 – 9.2)	0.04
Killip class >=3	4.9 (2.0 – 12.1)	0.001
Received a beta-blocker in hospital	0.3 (0.1 – 0.6)	0.001

Conclusions: Among AMI patients aged less than 60 entered in the AMIS database from 1997 to 1999, women were more likely to die in hospital than men. Although these women had a higher risk profile, no variable was found that fully accounted for these worse outcomes.