Treatment and in-hospital outcome in diabetic and non-diabetic patients admitted for acute coronary syndrome between 1997 and 2003 in Switzerland

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Background The treatment of acute coronary syndrome (ACS) is undergoing dynamic changes. Diabetes remains a significant factor which worsens prognosis.

Aims To examine the treatment of diabetic and non-diabetic patients admitted for ACS and to assess the association of diabetes with in-hospital outcome.

Methods Using the AMIS Plus Register (Acute Myocardial Infarction and Unstable Angina in Switzerland) we compared the early drug therapy, reperfusions, and outcome in patients admitted for ACS with or without diabetes.

Results AMIS Plus registry (1997-2003) included 13 424 hospitalised patients with ACS. 77.3% were non-diabetic and 20.4% diabetic patients. Diabetic patients were older (68.7±11.2y) than non-diabetic (64.3±13.2y) (p<0.001), predominantly female (33% vs. 27%) (p<0.001), had worse Killip classification at admission (p<0.0001). Diabetic patients had significantly more frequently risk factors, except smoking. Diabetics received less frequently aspirin (p<0.001), thienopyridines (p<0.001), standard heparin (p<0.003), LMWH (p<0.03) and beta blockers (p<0.001), but received more frequently ACE inhibitors (p<0.001) and angiotensin II antagonists (p<0.001). No difference was found between diabetic and non-diabetic patients for nitrate (p=0.942) and lipid lowering drugs (p=0.122). Reperfusion was more frequently performed in non-diabetic patients than in diabetic patients: thrombolysis in 25.2% vs. 18.3% (p<0.001), primary PCI 23.6% vs. 20.4% (p<0.001). Diabetic patients stayed 2 days longer in hospital (p<0.001). In-hospital mortality was significantly higher in diabetic patients 12.6% than in non-diabetic patients 6.6% (p<0.001). In a multivariate logistic regression model the independent in-hospital mortality predictors were age, OR 1.07 per year (p<0.0001) and diabetes OR 1.63 (p<0.0001). Primary PCI (OR 0.75; p=0.018); aspirin (OR 0.54; p=0.001); thienopyridines (OR 0.64; p=0.001), beta blocker (OR 0.31; p=0.001); and ACE inhibitor (OR 0.58; p=0.001); were associated with decreased mortality risk.

Conclusion The diabetic patients admitted for ACS were older, predominantly female, with severe heart failure, had more risk factors and received less frequently early drug therapy and reperfusion. The presence of diabetes at admission even adjusted for age affected significantly the treatment and in-hospital mortality.