

Diabetes mellitus and renal failure in patients with AMI: 5-year data from the Berlin Myocardial Infarction Registry (BMIR)

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Background

Diabetes mellitus (DM) and renal failure (RF) are important cardiovascular risk factors. Since DM and RF increase the risk of dying from a coronary event, we studied the influence of a combination of both on treatment and outcome of STEMI and NSTEMI patients.

Methods

The BMIR is an ongoing myocardial infarction registry that collects data on treatment and outcome of AMI patients in Berlin. For this analysis we included data from 5133 STEMI and 5321 NSTEMI patients below the age of ≤ 85 from the years 2006 to 2010.

Results

STEMI/NSTEMI	PCI < 48 h in %	Hospital mortality with PCI in %	Hospital mortality without PCI in %	p (for hospital mortality)
NSTEMI				
no DM / no RF (n=3080)	79.6	1.4	5.7	<0.001
DM (n=1201)	73.6	2.4	4.5	0.064
RF (n=448)	57.6	7.8	9.5	0.404
DM and RF (n=592)	53.4	8.2	16.4	0.003
STEMI				
no DM / no RF (n=3605)	92.6	3.5	13.9	<0.001
DM (n=978)	90.6	7.8	17.4	0.002
RF (n=255)	81.2	10.1	35.4	<0.001
DM and RF (n=295)	73.9	24.3	37.7	0.025

Conclusions

1. NSTEMI patients suffer more often from DM and/or RF than do STEMI patients.
2. NSTEMI and STEMI patients with DM or RF receive PCI less often and experience greater hospital mortality. After adjustment for age, sex, STEMI, for CHF, atrial fibrillation and cardiogenic shock on admission and for PCI <48h, adjusted hospital mortality is greatest for patients suffering from DM and RF (OR=2.47; 95%CI: 1.83-3.30), followed by patients with RF (OR=1.68; 95%CI: 1.19-2.37), followed by patients with DM (OR=1.22 (95%CI: 0.94-1.58) compared to patients with no DM/no RF.
3. PCI <48h is associated with a lower hospital mortality in all groups studied.