Prognostic value of in-hospital worsening of renal function in patients with acute coronary syndrome

António Gaspar, Sérgio Nabais, Márcia Torres, Sérgia Rocha, Aida Brandão, Pedro Azevedo, Miguel Alvares Pereira, Adelino Correia
Cardiology – São Marcos Hospital, Braga.

Purpose

The association between a history of renal insufficiency and poor outcome in patients with acute coronary syndrome (ACS) is well known. However, little information is available about in-hospital worsening of renal function. Our goal was to determine the prognostic impact of in-hospital worsening of renal function in patients with ACS.

Methods

A total of 1228 patients consecutively admitted with ACS from January 2004 to March 2007 were reviewed. Patients deceased in hospital and patients with < 2 analysis and/or without creatinine value on admission were excluded. The selected patients were classified into 2 groups. Group I included patients with an increase in creatinine <0.5 mg/dL. Group II included patients with an increase in creatinine ≥ 0.5 mg/dL. The primary endpoint was 6-month mortality from any cause.

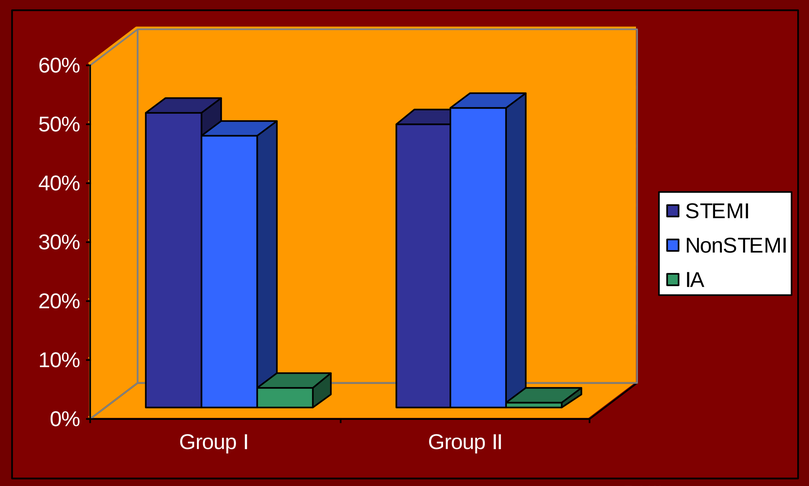
Results

Of the 1134 patients finally selected, 1028 belonged to group I and 106 to group II.

Baseline characteristics

	Group I (n=1028)	Grupo II (n=106)	*p*
Age (years)	63.15 ± 12.9	74.08 ± 8.8	<0.0001
Female sex	228 (26.1%)	42 (39.6%)	0.003
CV risk factors:			
Diabetes Mellitus	264 (25.7%)	45 (42.5%)	0.001
Hypertension	187 (19.8%)	61 (63.5%)	<0.0001
Hypercholesterolemia	492 (47.9%)	47 (44.3 %)	NS
Previous renal insufficiency	204 (19.8%)	67 (63.5%)	<0.0001
CV history:			
Previous AMI	179 (17.4%)	23 (21.7%)	NS
Previous PCI	46 (4.5%)	2 (1.9%)	NS
Previous CABG	36 (3.5%)	4 (3.8%)	NS
Peripheral arterial disease	20 (1.9%)	5 (4.7%)	NS
Previous stroke	65 (6.3%)	14 (13.2%)	0.011
At admission:			
Heart rate (bpm)	76 ± 18	84 ± 21	<0.0001
SAP (mmHg)	138 ± 26	150 ± 33	<0.0001
KK> 1	189 (18.4%)	52 (48.6%)	<0.0001
Left ventricular dysfunction	610 (59.4%)	85 (80.8%)	<0.0001

Presentation

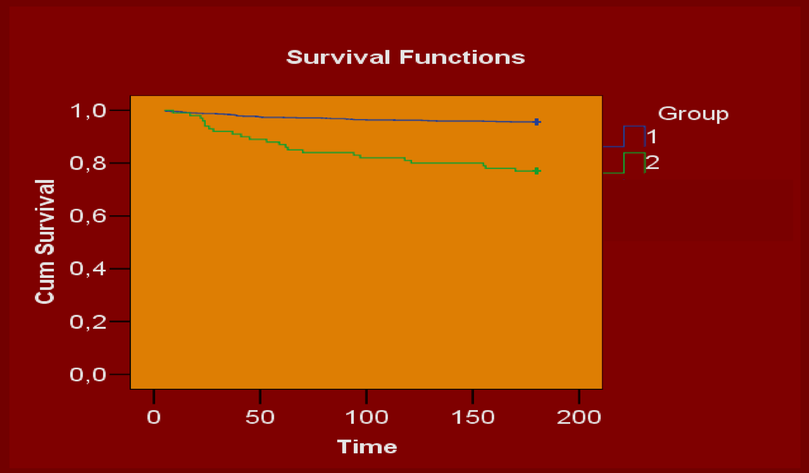


P NS

Medical treatment and invasive strategy

	Group I (n=1028)	Group II (n=106)	*p*
In-hospital medical therapy:			
AAS	1021 (99.7%)	106 (100%)	NS
Clopidogrel	482 (46.9%)	48 (45.3%)	NS
LMWH	956 (93%)	104 (98%)	NS
UFH	227 (22.1%)	14 (13.2%)	0.03
iECA	934 (90.9%)	103 (97.2%)	NS
β-blocker	919 (89.4%)	84 (79.2%)	0.003
Statin	1014 (98.7%)	104 (98.1%)	NS
Nitrates	661 (64.3%)	77 (72.6%)	NS
Ca atg	106 (10.3%)	16 (15.1%)	NS
Coronography	729 (70.9%)	58 (54.7%)	0.001
PCI	334 (32.5%)	21 (19.8%)	0.001
Medical therapy at discharge:			
AAS	987 (96.4%)	102 (96.1%)	NS
Clopidogrel	414 (40.4%)	42 (39.6%)	NS
iECA	908 (88.3%)	94 (88.7%)	NS
β-blocker	896 (87.2%)	76 (71.7%)	<0.001
Statin	990 (96.3%)	99 (93.4%)	NS
Nitrates	217 (21.1%)	40 (37.7%)	<0.001
Ca Atg	112 (10.9%)	19 (17.9%)	0.04

Mortality at 180 days (M180days) – Kaplan – Meier curves



P <0.0001

Moratlity predictors at 180 days – Multivariate analysis

Conclusion

In-hospital worsening of renal function is associated with increased 6-month mortality in patients with ACS.