

Incidence and prognostic significance of atrial fibrillation in patients admitted with acute coronary syndrome

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Introduction: Atrial fibrillation (AF) is often observed in patients with acute coronary syndrome (ACS), either as a pre-existing condition, or appearing as a complication of myocardial ischaemia or heart failure. The objective of this study is to determine the incidence of AF and its impact on outcome among patients admitted with ACS.

Methods: We reviewed AMIS Plus (acute myocardial infarction and unstable angina in Switzerland), a multicentre nationwide registry of patients admitted for ACS in 68 Swiss hospitals.

Results: Among the 14005 patients admitted for ACS from 1997 to 2005 (53% with ST segment elevation), 738 (5%) had AF on the admission ECG. Patients with AF had a higher risk profile, as well as a higher rate of in-hospital mortality and major adverse cardiac events (MACE, which includes cardiogenic shock, cerebrovascular insult, re-infarction and death), when compared to those with no AF on the admission ECG (table). They also underwent acute reperfusion less frequently. Multivariate analysis showed that AF was an independent predictor for a lesser use of acute reperfusion (odds ratio [OR] 0.60, 95% confidence interval [CI] 0.48-0.74), but not for in-hospital mortality (OR 1.02, 95% CI 0.75-1.40) and MACE (OR 1.17, 95% CI 0.88-1.54). Furthermore, oral anticoagulant therapy, which was received regularly before admission by 28% of patients with AF versus 5% for patients with other heart rhythms, was also associated with a less frequent use of reperfusion in the acute phase (OR 0.64, 95% CI 0.51-0.82).

Conclusions: Among patients currently admitted for ACS in Switzerland, 5% present with AF on their admission ECG. This is associated with a higher risk profile. Furthermore, although AF does not independently predict a higher rate of in-hospital mortality or MACE, it may lead to a decreased use of reperfusion therapy in the acute phase. This may be explained in part by a higher rate of anticoagulant therapy before admission among patients admitted with AF.

	Atrial fibrillation	Others
n	738 (5%)	13,267 (95%)
Female	37%	27%*
Median age (SD)	75.4 (10.1)	64.8 (13.1)*
Killip class > I	52%	22%*
Hypertension	75%	56%*
Hyperlipidemia	52%	62%*
Diabetes	29%	20%*
Smoking (current)	20%	39%*
Thrombolysis	9%	13%*
Primary PCI	25%	48%*
In-hospital mortality	15%	6%*
In-hospital MACE	19%	8%*

PCI=percutaneous coronary intervention; MACE= major adverse cardiac events; *p>0.001