Predictors of new onset atrial fibrillation in patients presenting with acute coronary syndromes and their in-hospital outcomes.

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Background: Atrial fibrillation is frequently associated with AMI. New onset atrial fibrillation is an independent predictor of adverse events in AMI patients, above that explained by their comorbid conditions. The aim of this study is to determine the prevalence, clinical predictors and outcomes of new onset atrial fibrillation in unselected patients with ACS.

Methods and results: Data from 14,556 ACS patients were evaluated. New onset atrial fibrillation occurred in 6.2% of ACS patients. Comorbid conditions occurred more frequently in ACS patients with atrial fibrillation. Multivariate regression analysis identified a number of predictors of new
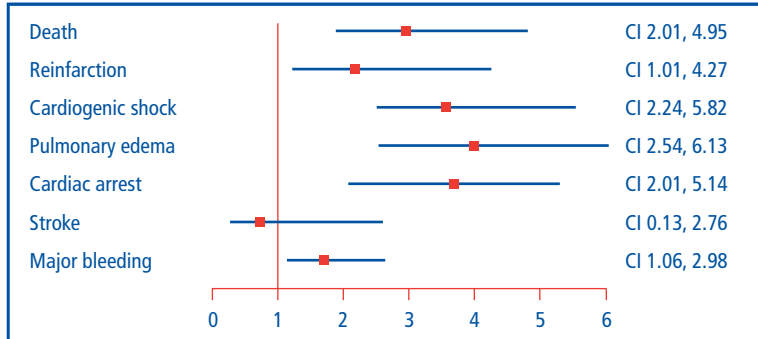
Risk of atrial fibrillation	OR (95% CI)
Older age (per 10-year increase)	1.65 (1.55-1.75)
Female gender	1.20 (1.03-1.40)
Heart rate (per 30-beats/minute increase)	1.79 (1.65-1.96)
STEMI (referent UA)	2.18 (1.79-2.66)
NSTEMI (referent UA)	2.08 (1.71-2.54)
Cardiac arrest on presentation	1.77 (1.20-2.61)
Prior revascularization	0.74 (0.60-0.90)
Higher systolic blood pressure (per 20-mmHg increment)	0.87 (0.83-0.92)

Table. Predictors of new onset atrial fibrillation during hospitalization

onset atrial fibrillation (Table). After adjustment for differences in baseline clinical characteristics, atrial fibrillation remained an important predictor of hospital events (Figure).

Conclusions: New onset atrial fibrillation is a common occurrence in ACS patients and predicts poor hospital outcomes. Clinical variables that are easily available at presentation can be used to identify ACS patients at risk for new onset atrial fibrillation.

	CI
Death	CI 2.01, 4.95
Reinfarction	CI 1.01, 4.27
Cardiogenic shock	CI 2.24, 5.82
Pulmonary edema	CI 2.54, 6.13
Cardiac arrest	CI 2.01, 5.14
Stroke	CI 0.13, 2.76
Major bleeding	CI 1.06, 2.98

Figure. Adjusted OR for hospital events