Recurrent ischemia in ACS: differential impact of ECG changes on outcomes

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Background: Reinfarction following MI tends to be associated with worse outcomes. Little information is available about the various types of recurrent ischemia and their impact on outcomes in ACS patients. The aim of this report is to determine the impact of recurrent ischemia on hospital outcomes in patients admitted to hospital with ACS using data from the GRACE study.

Methods and results: The demographics and outcomes of 17,511 patients with and without in-hospital recurrent ischemia were analyzed (Table). After multivariate analysis, male gender, history of angina, infarction, low heart rate, elevated systolic blood pressure and bleeding were found to be

independent predictors of in-hospital recurrent ischemia. After adjusting for baseline characteristics recurrent ischemia was an independent predictor of hospital death: ACS population (OR 1.6, 95% CI 1.36-1.95), STEMI (1.96, 1.36-1.98) and NSTEMI/UA (1.5, 1.17-1.99).

Conclusions: Nearly one-third of ACS patients develop in-hospital recurrent ischemia. Outcomes for those without reinfarction or ST changes are similar to those of patients without recurrent ischemia. Conversely, patients with reinfarction or recurrent ischemia and ST changes experienced worse outcomes.

	RI	Reinfarction	RI with ST changes	RI without ST change or reinfarction	P comparisons for the three types of RI	Without RI	P (with vs without RI)
N (%)	4828 (30.2)	261	1433	3134		11,170 (69.8)	
Age (years)	66.7	69.0	67.5	66.0	<0.0001	66.0	NS
Male (%)	64.0	64.3	63.4	63.6	0.9623	68.4	<0.0001
STEMI at admission (%)	35.8	67.4	41.0	30.8	<0.0001	44.4	<0.0001
Death (%)	5.6	29.5	7.2	3.0	<0.0001	5.0	0.022

Table. Demographics and outcomes of patients with and without in-hospital recurrent ischemia (RI). Adapted from P.G. Steg. Eur Heart J 2002; 4 (suppl): 588