

Stenting and glycoprotein IIb/IIIa inhibition in angioplasty for acute myocardial infarction (AMI) in the Global Registry of Acute Coronary Events (GRACE)

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Background: Stenting and GP IIb/IIIa inhibitors can improve clinical outcome in patients undergoing PCI. We examined the use of these different therapeutic options using data from patients with ACS enrolled in the multinational GRACE registry.

	Primary PCI	Rescue PCI	Urgent PCI	Elective PCI	P-value
Treatment	Patients (%)				
GP IIb/IIIa pre-PCI	14.0	11.7	8.3	9.9	NS
GP IIb/IIIa post-PCI	57.5	46.0	46.6	37.5	<0.001
Stent	79.0	82.2	84.4	85.3	NS
In-hospital outcomes					
Shock	8.1	5.2	13.6	3.2	<0.001
Heart failure	17.8	22.7	24.7	15.0	0.02
Mortality	5.1	4.7	6.0	2.8	NS

Table. In-hospital treatment and outcomes of ACS patients undergoing primary, rescue, urgent or effective PCI

Methods and results: Data from 3419 patients with AMI, defined as ST-elevation or new LBBB within 12 hours of chest pain, were analyzed. Of these, 51% were treated with thrombolytics and 17% underwent primary PCI. Most patients undergoing PCI had a primary PCI (n=539), while the others had rescue (n=236), urgent (n=217) or elective (n=292) PCI. Patients who underwent rescue or urgent PCI were at high risk of adverse hospital outcomes, and were less likely to receive GP IIb/IIIa inhibitors after the PCI (Table). Of patients who underwent primary PCI, those who received neither stent nor GP IIb/IIIa inhibitors had a higher mortality rate (15.6%) than those who received a stent alone (3.7%), GP IIb/IIIa inhibitors alone (6.8%), or both (3.8%), P=0.02.

Conclusions: The findings from this large observational study suggest that primary PCI is associated with a high rate of stenting and a low rate of use of GP IIb/IIIa inhibitors. Patients undergoing primary PCI without stenting or GP IIb/IIIa inhibitors are at high risk of in-hospital mortality.