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.

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.

Objective: Patients enrolled in clinical trials tend to be highly selected, whereas GRACE offers an opportunity to assess the results of randomized trials in an unselected patient population. We examined the use of GP IIb/IIIa inhibitors and UFH in ACS patients enrolled in GRACE. We compared early CEPs in GRACE patients with those seen in randomized clinical trials.

Methods and results: The baseline characteristics (stratified by type of ACS), and in-hospital events of GRACE patients were compared with those of patients from the PURSUIT, PRISM and PRISM-PLUS studies. The GRACE population was divided into patients receiving UFH alone, GP IIb/IIIa inhibitors alone, or both. Patients who received neither UFH nor GP IIb/IIIa inhibitors were excluded from the analysis. The criteria for inclusion and exclusion applied in these three clinical trials were used to compare the study findings.

The GRACE data show that patients qualifying for enrollment in clinical trials had a mean age of 65 years and were more likely to be male (~70%). They also had a higher incidence of diabetes (24%), MI (39%), CHF (13%), PCI (19%) and CAGB (16%). Thus, patients enrolled in these clinical trials were younger and possessed fewer comorbid conditions than patients included in GRACE. Unfractionated heparin in combination with GP IIb/IIIa inhibitors significantly reduced the risk for mortality. However, the rates of mortality and recurrent MI and CEP were still higher in GRACE patients than in patients in clinical trials.

Conclusion: The results of randomized clinical trials do not necessarily reflect outcomes for the full spectrum of ACS patients treated in routine clinical practice.