Bivalirudin versus heparin plus a glycoprotein IIb/IIIa inhibitor in patients with non-ST-segment elevation myocardial infarction undergoing percutaneous coronary intervention after clopidogrel pretreatment: pooled analysis from the ACUITY and ISAR-REACT

The optimal antithrombotic therapy for patients with non-ST-segment elevation myocardial infarction undergoing percutaneous coronary intervention is not well defined. We investigated the efficacy and safety of bivalirudin versus heparin plus a glycoprotein IIb/IIIa inhibitor (GPI) in patients with non-ST-segment elevation myocardial infarction undergoing percutaneous coronary intervention after clopidogrel pretreatment. This study included 3798 clopidogrel-pretreated patients with non-ST-segment elevation myocardial infarction undergoing percutaneous coronary intervention, who were randomly assigned to receive bivalirudin (n=1928) or heparin (unfractionated heparin or enoxaparin; n=1870) plus a GPI in the setting of the Acute Catheterization and Urgent Intervention Triage Strategy (ACUITY) and Intracoronary Stenting and Antithrombotic Regimen: Rapid Early Action for Coronary Treatment (ISAR-REACT) 4 trials. Major end points were a composite of death, recurrent myocardial infarction or urgent target vessel revascularization (efficacy end point), major bleeding (safety end point), and the composite of death, recurrent myocardial infarction, urgent target vessel revascularization, and non-fatal macular hemorrhage.
revascularization, or major bleeding (net adverse clinical events [NACE]) at 30 days. The incidence of the efficacy end point was 10.6% (n=205) in the bivalirudin group versus 10.2% (n=191) in the heparin plus a GPI group (OR, 1.04; 95% CI, 0.85-1.27; P=0.69). The incidence of safety end point was 3.4% (n=66) in the bivalirudin group versus 6.3% (n=117) in the heparin plus a GPI group (OR, 0.54 [0.40-0.72]; P<0.001). NACE occurred in 258 patients (13.4%) in the bivalirudin group versus 275 patients (14.7%) in the heparin plus a GPI group (OR, 0.90 [0.76-1.06]; P=0.21). NACE rates were not significantly different between bivalirudin and heparin plus a GPI in patients with non-ST-segment elevation myocardial infarction undergoing percutaneous coronary intervention after clopidogrel pretreatment. Although no significant difference in efficacy was seen in terms of suppression of adverse ischemic events, bivalirudin was superior to heparin plus a GPI in terms of reducing bleeding events.