Title of Contribution:
Prasugrel plus bivalirudin vs. clopidogrel plus heparin in patients with ST-segment elevation myocardial infarction.

Abstract:
Whether prasugrel plus bivalirudin is a superior strategy to unfractionated heparin plus clopidogrel in patients with ST-segment elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI) has never been assessed in specifically designed randomized trials. The Bavarian Reperfusion...
Alternatives Evaluation (BRAVE) 4 study is an investigator-initiated, randomized, open-label, multicentre trial, designed to test the hypothesis that in STEMI patients with planned primary PCI a strategy based on prasugrel plus bivalirudin is superior to a strategy based on clopidogrel plus heparin in terms of net clinical outcome. Owing to slow recruitment, the trial was stopped prematurely after enrolment of 548 of 1240 planned patients. At 30 days, the primary composite endpoint of death, myocardial infarction, unplanned revascularization of the infarct related artery, stent thrombosis, stroke, or bleeding was observed in 42 patients (15.6%) randomized to prasugrel plus bivalirudin and 40 patients (14.5%) randomized to clopidogrel plus heparin [relative risk, 1.09; one-sided 97.5% confidence interval (CI) 0-1.79, P = 0.680]. The composite ischaemic endpoint of death, myocardial infarction, unplanned revascularization of the infarct-related artery, stent thrombosis, or stroke occurred in 13 patients (4.8%) in the prasugrel plus bivalirudin group and 15 patients (5.5%) in the clopidogrel plus heparin group (relative risk, 0.89; 95% CI 0.40-1.96, P = 0.894). Bleeding according to the HORIZONS-AMI definition was observed in 38 patients (14.1%) in the prasugrel plus bivalirudin group and 33 patients (12.0%) in the clopidogrel plus heparin group (relative risk, 1.18; 95% CI 0.74-1.88, P = 0.543). Results were consistent across various subgroups of patients. In this randomized trial of STEMI patients, we were unable to demonstrate significant differences in net clinical outcome between prasugrel plus bivalirudin and clopidogrel plus heparin. Neither the composite of ischaemic complications nor bleeding were favourably affected by prasugrel plus bivalirudin compared with a regimen of clopidogrel plus unfractionated heparin. However, the results must be interpreted in view of the premature termination of the trial. Unique identifier NCT00976092 (www.clinicaltrials.gov).