

HIGH-DOSE CLOPIDOGREL LOADING IS SAFE AND EFFECTIVE IN PATIENTS WITH ST-ELEVATION MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

i2 Poster Contributions

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Background: The benefit of a higher loading dose of clopidogrel, compared with the conventional 300 mg loading dose, before primary percutaneous coronary intervention (PCI) is currently unclear. In the present study we evaluated safety and efficacy of a 600 mg loading dose of clopidogrel in patients ST-elevation myocardial infarction (STEMI) who underwent primary PCI.

Methods: A cohort of 755 patients with STEMI, enrolled in the nationwide prospective Korea Acute Myocardial infarction Registry between January 2007 and January 2008, who underwent primary PCI after a clopidogrel loading dose of 600 mg was compared with 755 propensity-matched patients with STEMI who received a 300 mg loading dose before primary PCI. Angiographic and clinical outcomes in-hospital and at 30 days were assessed.

Results: The mean door-to-balloon time was 2.4 ± 5.1 and 2.6 ± 5.9 hours in the 600 mg and 300 mg groups, respectively ($p=0.388$). Initial patency of the infarct-related artery (pre-PCI TIMI grade 2/3) was significantly higher in the 600 mg group than in the 300 mg group: 54.4% vs. 45.6%, $p=0.034$). The rate of post-PCI TIMI grade 3 flow was also significantly higher in the 600 mg group independently of the use of glycoprotein IIb/IIIa inhibitor (85.8% vs. 89.3%, $p=0.042$). Compared to the 600mg group, a significantly higher proportion of patients in the 300 mg group received bare-metal stents (13.7% vs. 6.1%, $p<0.0005$) and required prolonged anticoagulation during hospitalization (low molecular weight heparin: 37.2% vs. 30.9%, 0.009; unfractionated heparin: 70.2% vs. 58.5%, <0.0005). The length of hospital stay was significantly longer in the 300 mg group (7.1 ± 6.7 vs. 6.2 ± 5.7 days, 0.006). However, the incidence of in-hospital and 30-day ischemic events (bleeding complications, death, MI, or stent thrombosis) was similar between the two groups.

Conclusion: Compared to the conventional 300 mg loading dose, the 600 mg loading dose of clopidogrel before primary PCI improved pre- and post-PCI patency and reduced the need for prolonged anticoagulation and hospital stay without increasing the risk of serious bleeding complications.