UPSTREAM CLOPIDOGREL FOLLOWED BY PRE-PCI PRASUGREL GIVES RAPID PLATELET INHIBITION AND REPRESENTS A FEASIBLE OPTION IN STEMI PATIENTS UNDERGOING PRIMARY PCI

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Background: To assess the feasibility of adding a bolus dose of prasugrel on top of an upstream bolus dose clopidogrel in STEMI patients undergoing primary PCI (pPCI).

Methods: Patients with STEMI planned for pPCI underwent analysis of platelet inhibition using a VASP assay at three time points: pre-PCI, post-PCI and day after PCI. Patients received either a) a loading dose of clopidogrel only (600 mg, n=75), b) upstream clopidogrel (600 mg) followed by loading dose prasugrel (60 mg) after performed coronary angiography (n=97, clopidogrel-prasugrel group) c) prasugrel (60 mg) bolus dose only at the catheterization laboratory (n=11, prasugrel-only group). Groups were followed for safety end-points.

Results: Day after PCI both the clopidogrel-prasugrel group and the prasugrel-only group showed similar VASP-PRI levels that were markedly lower compared to clopidogrel-only patients. One-year mortality was low in the clopidogrel-prasugrel group (2.8%) as well as major in-hospital bleedings (1.1%).

Conclusions: A loading dose of upstream clopidogrel followed by a loading dose of prasugrel after performed coronary angiography resulted in substantially more potent platelet inhibition in STEMI patients planned for pPCI compared to clopidogrel monotherapy. The degree of platelet inhibition in dual loading dose treated patients was similar to patients treated with prasugrel only, with no signs of exaggerated platelet inhibition. Clinical data indicated low event rates for mortality and bleedings.