MYOCARDIAL ISCHEMIA AND INFARCTION

FIRST VALIDATION OF ADJUNCTIVE CILOSTAZOL LOADING EFFECT AND DOSAGE ON PLATELET INHIBITION: RESULTS OF THE ACCEL-LOADING STUDY

ACC Poster Contributions
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Background: Cilostazol has a potential to decrease peri-procedural ischemic events through various pathways. Whether adjunctive cilostazol loading-dose (LD) to aspirin and clopidogrel for high-risk patients can increase platelet inhibition is not determined yet.

Methods: This prospective, open-label, 2-period, randomized crossover study enrolled 20 healthy volunteer. Subjects were randomized to 300mg aspirin and 600mg clopidogrel LD (dual therapy), or adjunctive cilostazol 200mg LD (at 0 and 6 hours) (triple therapy) with a 2-week washout period between therapies. ADP- and arachidonic acid (AA)-induced platelet reactivities were measured by conventional aggregometry and multiple electrode aggregometry (MEA) at baseline, 1, 2, 4, 6, 8, and 10 hours. Primary endpoint was inhibition of ADP-induced maximal platelet aggregation (IPAmax) at 4 hours.

Results: The 5 and 20μM ADP-induced IPAmax after triple therapy was significantly higher than that after dual therapy at 4, 6, 8 and 10 hours (figure: all p<0.01). In regard to IPA with 1.6 mM AA, triple therapy could achieve greater inhibition than dual therapy (p <0.01) from 1 hour (figure). Similar results were obtained by MEA. Although 6-hour cilostazol re-loading increased platelet inhibition slightly, all subjects suffered from side effects of medication.

Conclusions: Adjunctive cilostazol LD enhances ADP- and AA-induced platelet inhibition than aspirin and clopidogrel LD, which may help peri-procedural ischemic events after high-risk PCI.