THE IMPACT OF SAPOGRELATE ON PLATELET AGGREGATION IN HEALTHY ADULTS: COMPARISON WITH ASPIRIN, CLOPIDOGREL, CILOSTAZOL

i2 Poster Contributions
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Background: Serotonin (5-HT) is associated with platelet aggregation. Sapogrelate, a selective 5-HT2A receptor antagonist, may have potential as anti-platelet agent with advantage of very short half life. Anti-platelet efficacy of sapogrelate compared with currently used anti-platelets is unknown.

Methods: Each 20 participants were randomized to aspirin, clopidogrel (Group I), aspirin, clopidogrel, cilostazol (Group II), aspirin, clopidogrel, sapogrelate (Group III), aspirin, sapogrelate (Group IV). All patients received a single 200mg aspirin, 300 mg clopidogrel, 200 mg cilostazol, 300 mg sapogrelate loading dose followed by a 100 mg aspirin, 75 mg clopidogrel, 200 mg cilostazol, 300 mg sapogrelate daily maintenance dose for 5 days according to the assigned regimen. Maximal platelet aggregation (MPA) induced by collagen 2.0 μg/ml or adenosine diphosphate (ADP) 5 μmol/l stimuli was compared using light transmittance aggregometry. The inhibition rate defined as percent difference between the pre and post treatment aggregation rate/pre treatment rate was also compared.

Results: Pre treatment MPA value was similar between all groups. All post treatment MPA rates was significantly lower as compared with pre treatment values in all groups after collagen or ADP stimuli (Table). Post treatment MPA rate was significantly lower in group II than group I or IV irrespective of aggregation stimuli, collagen or ADP. Post treatment MPA rate was also significantly lower in group III than group I only after collagen stimuli, not ADP stimuli. The inhibition rates were group I 58.23%, II 77.84%, III 72.02% and IV 63.31% regarding collagen. The corresponding values with ADP were 68.45%, 78.50%, 72.78% and 55.33%, respectively.

Conclusions: We found that sapogrelate have additional platelet inhibitory effect on top of current anti-platelet agents. Regarding very short half life, sapogrelate may be used as alternative anti-platelet agents before major surgery in patients who should take anti-platelet agents.