Relative comparison of loading dose Clopidogrel (300 mg) vs. conventional dose (75 mg) in decreasing the complications of acute ischemic stroke

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Background & Aim: Stroke is one of the leading causes of morbidity and mortality in the world. Patients surviving acute ischemic stroke or transient ischemic attack (TIA) are at an increased risk for subsequent stroke. Consistent with this notion, Antiplatelet agents are the mainstay for secondary prevention of non-cardio embolic stroke. A number of studies have indicated that Clopidogrel inhibits platelet aggregation in these patients, so that Clopidogrel loading dose has been more effective than maintenance dose in reducing the risk of subsequent stroke and vascular events without increasing the risk of bleeding events in patients which have already had an episode of stroke or TIA. In this study, we aimed to evaluate the comparative efficacy of Clopidogrel loading dose vs. standard dose in decreasing the complications of acute ischemic stroke in patients admitted to Sina Hospital.

Methods & Materials: In this double-blinded clinical trial, 76 patients with ischemic stroke referring to Sina hospital were assigned in two groups: The first group received Aspirin 80 mg and Clopidogrel 75 mg plus 225 mg placebo at baseline, followed by Clopidogrel 75 mg and Aspirin 80 mg daily for 30 days, whereas the second group received Aspirin 80 mg and Clopidogrel 300 mg in the first day, followed by Clopidogrel 75 mg and Aspirin 80 mg daily for 30 days. Two weeks later, improvement of the patients was compared. All patients were monitored for neurologic deterioration to detect symptomatic ICH within 7 days after stroke. Also, they were followed for any new bleeding event and recurrent stroke within 1 month.

Results: In this study, 76 patients, including comprising 41 males (53.9%) and 35 women (46.05%), mean age 67.45±6.85 years were evaluated. The difference between the two groups in terms of age, sex, and risk factor of stroke was not statistically significant. Based on MRS and Barthel scores, the level of improvement after 2 weeks was remarkably higher than the group received loading dose Clopidogrel compared to that of standard dose ($P < 0.05$). The correlation between NIHSS, MRS, and Barthel scores with age, sex, and the risk factor of ischemia were not statistically significant ($P > 0.05$). Besides, the frequency of symptomatic ICH or any bleeding event in the group taken the loading dose Clopidogrel was not significantly higher than those received standard dose ($P = 0.43$)

Conclusion: Our data have shown that administration of loading dose Clopidogrel after ischemic stroke (within 24 hours), not only augmented neurologic improvement as well as daily activities in patients with acute ischemic stroke, but also did not increase the risk of hemorrhagic complications.

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