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Evaluation of Outcomes and Complications of rtPA Administration with Dose 0.6 mg/kg in Patients with Acute Ischemic Stroke

Ameneh Daneshmand[1], Etrat Hooshmandi[1], Afshin Borhani-Haghighi[1]

[1] *Clinical Neurology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran*

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Background and Aim: The optimal dose of recombinant tissue plasminogen activator (rtPA) is controversial in various studies. The present study aimed to evaluate the consequences and complications of rtPA administration with a dose of 0.6 mg/kg in a population of Iranian patients with acute ischemic stroke (AIS).

Materials and Methods: In this historical cohort study, all patients with diagnosis of AIS referred to Namazi hospital (Shiraz University of Medical Sciences) that received rtPA at a dose of 0.6 mg/kg were recruited. Demographic and clinical characteristics, duration of Door-to-Needle time, modified Rankin Scale (mRS), National Institutes of Health Stroke Scale (NIHSS) scores and complications including intracranial hemorrhage (ICH), Symptomatic ICH (sICH), and death were evaluated during the study.

Results: The study included 157 eligible patients. The mean Door-to-Needle time was 74.4±31.2 minutes. Among the patients, 17 patients (10.82%) were died. Within the hospitalization period, ICH occurred in 24 patients (15.2%) after receiving rtPA; 11 of whom (7%) showed sICH. Forty-one patients (31.5%) had mRS scores of 0 and 1, and 89 patients (68.5%) had an mRS score of 2-6. History of hypertension and atrial fibrillation, higher NIHSS and lower ASPECT were significantly associated with any ICH (P value=0.049 and 0.024, 0.003 and <0.001 respectively).

Conclusion: The low dose of 0.6 mg/kg rtPA can be compared with the results of rtPA 0.9 mg/kg treatment in other countries and in European Union. The safety and efficacy of intravenous thrombolysis by rtPA 0.6 mg/kg can be used in routine clinical methods for patients with AIS.