

What is the Optimal Dosage of recombinant tissue Plasminogen Activator for Thrombolysis



Ruey-Tay Lin, MD

Department of Neurology, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

Factors that affect clinical outcomes after thrombolytic therapy in patients with acute ischemic stroke (AIS) are various. These may chiefly include clinical severity (NIHSS score), comorbidity, timing of rt-PA administration, age of the patient and dosage of rt-PA with or without racial discrimination... etc. Since 1995, after the result of NINDS study, the dosage of rt-PA in thrombolysis for AIS had not been an issue. Until in recent 4-5 years, more data from Asian population presented that lower dose of rt-PA seemed to have the same benefits as the standard dose (0.9 mg/kg).

In Taiwan, the Bureau of National Health Insurance began to cover the cost of rt-PA in AIS patients since 2004, and in the mean time, the Taiwan Stroke Society set up a registry for thrombolytic therapy, ie. the Taiwan Thrombolytic Therapy for Acute Ischemic Stroke (TTT-AIS). For the result of the first stage analysis (TTT-AIS I) in 241 AIS patients, this prospective, open, multicenter, observational study had appeared that lower dose group (0.72 ± 0.07 mg/kg) underwent a better outcome than the standard dose group (0.90 ± 0.02 mg/kg). The stage two study (TTT-AIS II) from 1004 cases in total further revealed that the four groups (0.9 mg/kg, n=422; 0.8 mg/kg, n=202; 0.7 mg/kg, n=199, and 0.6 mg/kg, n=181) showed the same benefits, but an increased incidence of SICH in the standard dose group and the advanced age group (over 70 y/o).

The stage III study (TTT-AIS III) is scheduled to start for the following 3 years (300 patients/year), we aim to clarify 1. the optimal dose for Taiwanese people, ie. benefit vs risk, 2. is 0.9 mg/kg dose real good for patients below 70 y/o? and 3. for patients between 70 and 80 years of age, should 0.6 mg/kg dose be the Prime option?
