

Clinical and radiological factors associated with unfavorable outcome after intravenous thrombolysis in patients with mild ischemic stroke

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Background and purpose: A significant proportion of patients with mild ischemic stroke become disabled despite receiving intravenous thrombolytic therapy. The purpose of this study was to assess factors associated with unfavorable outcomes in patients with minor ischemic stroke that received intravenous recombinant tissue plasminogen activator (rt-PA) therapy. **Methods:** We identified anterior circulation stroke patients with initial NIHSS scores ≤ 5 who received intravenous thrombolysis within 4.5 hours of stroke onset and had pretreatment magnetic resonance (MR)/MR angiography using our prospective stroke database. Logistic regression was used to determine independent predictors of unfavorable outcomes. **Results:** Among 121 patients (85 men; mean age, 63.4 ± 11.3 years) included in this study, 46 (38%) had unfavorable outcomes at 90 days and diffusion-weighted imaging (DWI) lesion patterns showing infarction in the deep middle cerebral artery (MCA) territory involving the perforating artery area was observed in 47 (38.8%) patients. On multivariable analysis, unfavorable outcomes at 90 days were associated with diabetes [odds ratio (OR), 3.41; 95% confidence interval (CI), 1.06–10.9; $P=0.039$], NIHSS score on admission (OR, 2.11; 95% CI, 1.35–3.30; $P=0.001$), and infarction in the deep MCA territory on DWI (OR, 4.19; 95% CI, 1.63–10.8; $P=0.003$). Lesions in the deep MCA territory was independently associated with early neurological deterioration ($P=0.032$). The patients without deep MCA territory infarction had a higher prevalence of cardiac embolism ($P=0.009$). **Conclusions:** Higher NIHSS scores, diabetes, and deep MCA territory infarction may be useful for predicting unfavorable outcomes in patients with minor stroke treated with intravenous rt-PA therapy.