Early recurrent ischemic stroke in stroke patients undergoing intravenous thrombolysis

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BACKGROUND
We assessed the incidence of early recurrent ischemic stroke in stroke patients treated with intravenous tissue-type plasminogen activator (tPA) and the temporal pattern of its occurrence compared with symptomatic intracranial hemorrhage (ICH).

METHODS AND RESULTS
Prospectively collected, population-based data for 341 consecutive acute stroke patients (62% men; mean age, 66 years) treated with tPA according to the National Institute of Neurological Disorders and Stroke study protocol at 8 medical centers in Switzerland (3 academic and 5 community) between January 2001 and November 2004 were retrospectively analyzed. The primary outcome measure was neurological deterioration > or = 4 points on the National Institutes of Health Stroke Scale occurring within 24 hours of tPA treatment and caused either by recurrent ischemic stroke (defined as the occurrence of new neurological symptoms suggesting involvement of initially unaffected vascular territories and evidence of corresponding ischemic lesions on cranial computed tomography scans, in the absence of ICH) or by ICH. Early recurrent ischemic stroke was diagnosed in 2 patients (0.59%; 95% confidence interval, 0.07% to 2.10%) and symptomatic ICH in 15 patients (4.40%; 95% confidence interval, 2.48% to 7.15%). Both recurrent ischemic strokes occurred during thrombolysis, whereas symptomatic ICHs occurred 2 to 22 hours after termination of tPA infusion.

CONCLUSIONS
Recurrent ischemic stroke is a rare cause of early neurological deterioration in acute stroke patients undergoing intravenous thrombolysis, with a different temporal pattern compared with that of symptomatic ICH.

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