

Edaravone

Aoki et al., investigated whether administration of edaravone, a [free radical scavenger](#), before or during [tissue plasminogen activator](#) (tPA) can enhance early [recanalization](#) in a major arterial occlusion.

The YAMATO study (Tissue-Type Plasminogen Activator and Edaravone Combination Therapy) is an investigator-initiated, multicenter (17 hospitals in Japan), prospective, randomized, and open-label study. Patients with stroke secondary to occlusion of the M1 or M2 portion of the middle cerebral artery and within 4.5 hours of the onset were studied. The subjects were randomly allocated to the early group (intravenous edaravone [30 mg] was started before or during tPA) and the late group (edaravone was started after tPA and the assessment of early recanalization).

One-hundred sixty-five patients (96 men; median age [interquartile range], of 78 [69-85] years) were randomized 1:1 to either the early group (82 patients) or the late group (83 patients). Primary outcome, defined as an early recanalization 1.5 hour after tPA, was observed in 53% of the early group and in 53% of the late group ($P=1.000$). About secondary outcomes, the rate of significant recanalization of $\geq 50\%$ was not different between the 2 groups (28% versus 34%; $P=0.393$). The symptomatic intracerebral hemorrhage has occurred in 4 patients (5%) in the early group and in 2 patients (2%) in the late group ($P=0.443$). The favorable outcome (modified Rankin Scale score of 0-2) at 3 months was also similar between the groups (53% versus 57%; $P=0.738$).

The timing of edaravone infusion does not affect the rate of early recanalization, symptomatic intracerebral hemorrhage, or favorable outcome after tPA therapy ¹⁾.

¹⁾

Aoki J, Kimura K, Morita N, Harada M, Metoki N, Tateishi Y, Todo K, Yamagami H, Hayashi K, Terasawa Y, Fujita K, Yamamoto N, Deguchi I, Tanahashi N, Inoue T, Iwanaga T, Kaneko N, Mitsumura H, Iguchi Y, Ueno Y, Kuramoto Y, Ogata T, Fujimoto S, Yokoyama M, Nagahiro S. YAMATO Study (Tissue-Type Plasminogen Activator and Edaravone Combination Therapy). *Stroke*. 2017 Jan 24. pii: STROKEAHA.116.015042. doi: 10.1161/STROKEAHA.116.015042. [Epub ahead of print] PubMed PMID: 28119434.

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