

THE CONTROVERSY: IV TPA IS NOT THE DEFINITE TREATMENT IN ACUTE LARGE ARTERY OCCLUSION. THERE IS STILL INDICATION FOR ENDOVASCULAR STROKE TREATMENT

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The current goal in treating an acute stroke is to recanalize the occluded vessels for salvage of penumbra. An intravenous administration of recombinant tissue plasminogen activator (rt-PA) was an FDA approved recanalization therapy for an acute ischemic stroke. However there are several disadvantages of intravenous thrombolysis. It is only recommended within 4.5 hours of symptom onset. Furthermore recanalisation rates are poor in proximal artery occlusions. Recanalisation rate is 8.7% for internal carotid occlusion and 35.3% for proximal middle cerebral occlusion. In acute middle cerebral artery stroke rt-PA has nearly no potential to recanalize vessels if thrombus length exceeds 8 mm. In recently published SWIFT study which compared the efficacy and safety of Soliteire with MERCI Retrieval System, acute ischemic stroke patients were treated by thrombectomy within 8 hours of stroke symptom onset. Recanalization rate was %89 in stent retrieval group which translated to clinical outcome. Good neurological outcome (mRS 0-2) at 90 days was achieved in 58% of patients who was treated with stent retrieval. Given the lower rate of symptomatic hemorrhage (2%) ,new stent retrieval thrombectomy devices can be used in acute ischemic stroke patients. However the most important issues for achieving good clinical outcome in the endovascular stroke therapy is appropriate patient selection for endovascular therapy , speed of successful recanalization , peri-operative and post-operative neurocritical care.