IS THROMBECTOMY AN EFFECTIVE THERAPY FOR ACUTE STROKE? YES!

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I.v. thrombolysis administered within 4.5 hrs after symptom onset is an established and evidence-based therapy for ischemic stroke. However, recanalization rates are low and outcome is poor in patients with proximal occlusion of large vessels such as the distal internal carotid artery or the proximal middle cerebral artery. Therefore, endovascular approaches have emerged as an alternative to improve recanalization rates in thoses patients with high NIHSS scores and proximal vessel occlusion or in those patients with contraindications for i.v. thrombolysis. Dissappointingly, however, several recent trials including IMS-III, Synthesis, and MR Rescue all published in the New England Journal of Medicine in 2013 failed to show any benefit of endovascular therapy when applied in addition or as an alternative to i.v. thrombolysis. Several arguments were raised as an explanation for this result: slow and biased recruitment of patients, the use of “older” devices instead of “modern” stent-retrievers, long onset-to recanalization rates, or the use of anesthesia with intubation.

Why do I still believe that endovascular therapy might eventually emerge as an evidenced-based treatment alternative in selected patients? While recanalization without reperfusion (“futile recanalization”) may explain the failure to demonstrate improved outcomes in the recent trials, early recanalization remains the *sine-qua-non* prerequisite for reperfusion and functional recovery. Consequently, provided that recanalization is achieved both early and safely, there might still be a future for endovascular therapy in those patients in whom i.v. thrombolysis will not lead to recanalization. Therefore, academic centers need to be prepared to provide access to this therapy in a responsible manner instead of giving it up altogether. At the Charité hospital, we have discussed our treatment standards together with our colleagues from emergency medicine, anesthesiology, and neuroradiology after publication of IMS-III. We consented that patients with high NIHSS scores (>9), and occlusion of either distal ICA, M1 (thrombus length>8mm), or BA are eligible for endovascular therapy using stent-retrievers provided that groin puncture will be performed no later than 4 hrs after symptom onset. Age is an important factor, as our own data show an inverse relationship of successful recanalization (ie, recanalization with good outcome) with higher age. Also, all patients who do not have contraindications will immediately be treated with i.v. thrombolysis (“bridging”) prior to endovascular therapy. Mandatorily, all eligible patients must be included in ongoing randomized trials (for either anterior and posterior circulation). The window of opportunity for endovascular therapy however will soon be closed if we do not deliver hard data.