Can we prevent futile recanalization?

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Abstract

Mechanical recanalization of acute ischemic stroke due to large vessel occlusion (LVO) of the anterior circulation has been shown in several randomized controlled trials to be a highly effective treatment with high recanalization and low complications rates and consecutively a low number of patients needed-to-treat (NNT) in order to achieve favorable clinical outcome. However, despite successful recanalization, not all patients achieve favorable clinical outcome (usually defined as a mRS of 0-2 or clinical improvement), which is called “futile recanalization”. Major predictors of clinical outcome include stroke severity (clinical scores, NIHSS), patient age, size and location of infarction on imaging, time window, ischemic stroke mechanism, comorbid conditions, complications of stroke, recanalization success and treatment-related complications. These parameters have shown to be of value to predict the chance of achieving a favorable outcome. However, more and more studies show that endovascular thrombectomy is of benefit to most patients with acute ischemic stroke caused by LVO of the anterior circulation, irrespective of patient characteristics. Up to now, it is not possible to reliably predict “futile recanalization” in an individual patient either by clinical or imaging parameters or a combination of both. Even if patients with LVO may show a low potential of achieving favorable outcome, they should not be considered as candidates for “futile recanalization” per se. Refusing treatment because of potential “futile recanalization” is a “once in a life-time decision” for individual patients denying them the chance of a potential benefit of therapy. Therefore, refusing treatment in LVO stroke of the anterior circulation remains a multi-parametric decision taking into account several clinical and imaging parameters, but nevertheless, if in doubt—treat!