Bridging therapy with IV thrombolysis versus mechanical thrombectomy alone in Acute Ischemic Stroke: a monocentric analysis of reperfusion rates

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Abstract

Background: Mechanical thrombectomy (MT) has been shown to be an effective treatment in patients with acute ischemic stroke (AIS) caused by large vessel occlusions (LVO). However, the additional effect of bridging therapy - intravenous thrombolysis (IVT) with recombinant tissue-plasminogen-activator (rt-PA) prior to endovascular therapy—compared with endovascular treatment alone remains controversial.

Objectives: This study compared recanalization rates of endovascularly treated stroke patients with and without bridging IVT.

Methods: This monocentric retrospective observational study included data from patients with acute LVO within the anterior cerebral circulation who undergone MT with and without prior IVT between June 2017 and June 2018 in a comprehensive stroke center. Successful reperfusion was defined as a modified Thrombolysis in Cerebral Infarction (mTICI) scale 2b,2c and 3. Statistical analysis was carried out in IBM SPSS software.

Results: One hundred and thirty patients with acute ischemic stroke in the anterior cerebral circulation that undergone mechanical thrombectomy were included. Bridging therapy was administer in 61.5% of the cases. Successful reperfusion was achieved in 80.8% of the total MTs. There was no significant association between the administration of IVT and successful reperfusion rate.

Conclusions: Despite conflicting scientific evidence, data from our center provided indications towards the lack of advantage in reperfusion rates regarding bridging therapy prior to MT versus endovascular treatment alone. Further prospective studies are needed to confirm our findings, to identify patients that would most likely benefit from bridging therapy and to study the impact of rt-PA in patients’ functional outcomes.

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