Aspiration Thrombectomy of M2 occlusions: a single center analysis

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Background: Recent studies have shown that mechanical thrombectomy is safe and improves functional outcome in patients with acute ischemic stroke (AIS) due to intracranial carotid artery or proximal (M1) middle cerebral artery (MCA) occlusions. It is unclear if patients with distal MCA occlusions such as M2/M3 also benefit from endovascular treatment (EVT) without additional risks.

Objectives: To review the occurrence of thrombectomy after IV tPA in acute ischemic stroke due to a M2/M3 occlusion, in our single center, and to assess the clinical outcomes and associated complications.

Methods: We conducted a retrospective review of patients who underwent thrombectomy after IV tPA for treatment of an acute M2 or M3 occlusion between January and December 2016. Patient’s medical records (demographic data, endovascular treatment complications, NIH score at 24h), angiographic results and clinical outcome using the modified Rankin score (mRS) at 90 days were reviewed.

Results: Of a total of 24 patients, 23 patients had M2 occlusions and 1 patient had an M3 occlusion. Aspiration thrombectomy was performed in 24 patients. Three patients were treated with both stent retriever and aspiration thrombectomy. There was a female prevalence (15 vs 9 male patients). The mean age was 76.2 years old. The main risk factor was hypertension in 21 patients. The rate of successful recanalization (TICI grade ≥2b) was 75% (18 of 24 patients). There were no significant complications related to the thrombectomy procedure. The median NIHSS at admission was 13 (range: 4 - 23) and the median NIHSS at 24 hours was 10 (range: 1 - 26). At three months, 9 patients (37.5%) had favorable clinical outcome (mRs<2). Two patients (8%) had symptomatic hemorrhagic transformation (HI2). Mortality at 3 months was 16.6% (4 patients).

Conclusion: EVT of M2 and M3 occlusions, in selected patients, can result in a good outcome, with a low rate of complications. Further prospective studies are necessary to confirm these observations.