Is endovascular treatment the best choice for distal artery occlusions?

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Abstract

Background: Due to the eloquence of its specific branches, distal artery occlusions may lead to dramatic clinical presentations with a huge rate of disability. Endovascular treatment (EVT) for small vessel like M3 branch is still controversial regarding efficacy and safety. Indication for EVT in these cases is still unclear since there are limiting data either for primary and rescue distal occlusions.

Case Report: We report a case of a 69-year-old woman with history of hypertension, non-specified arrhythmia and dyslipidaemia, who presented at the ER with dysarthria, right oculocephalic deviation, left central facial palsy and left hemiparesis, scoring 21 points in NIHSS. The initial computed tomography (CT) showed no signs of acute lesion (ASPECTS 10) and the CT-angiography showed a right middle cerebral artery occlusion (distal branches, M2-M3 segments), with a good collateral circulation. Intravenous t-PA was administered, and she arrived in the angiography room 3h20m after the symptoms onset, scoring 12 points in NIHSS. Angiography showed an occlusion of the right M3 segment (parietal branch, superior division) and endovascular clot aspiration was performed with the 3MAX system, with only one pass. A TICI 2b was obtained in the end of the procedure, with no complications and about 4h after the symptoms onset. The 24h-control CT showed a hypodense lesion in the right parieto-temporal and insular regions. The patient was transferred to the resident hospital 2 days after the intervention, with a slight left hemiparesis and hemihypesthesia, scoring 4 points in NIHSS and a mRS of 2.

Conclusions: EVT is useful for acute distal occlusions and prompt recanalization results in a good clinical outcome. Data suggest that patients with isolated M3 occlusions show similar severity of disease, recanalization rates and clinical outcome as patients with proximal occlusions. Indeed, success rates of EVT in distal arteries might be higher, since distal occlusion is a more localized condition, and its risk for parenchymal hemorrhage seems to be smaller.