

Beyond Large Vessel Occlusion Strokes: Distal Occlusion Thrombectomy

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Introduction

Endovascular therapy is the standard of care for the treatment of proximal large vessel occlusion strokes (LVOS). Its safety and efficacy in the treatment of distal intracranial occlusions has not been well studied.

Methods

We reviewed a prospectively collected database (2010-2015,n=898) for all patients with distal intracranial occlusions treated with endovascular therapy. Distal occlusions were defined as any occlusion of the anterior cerebral artery(ACA), any occlusion of the posterior cerebral artery(PCA), or any occlusion at or distal to the middle cerebral artery (MCA)-M3 opercular segment.

Results

Distal occlusions were treated in 70 patients. The mean age was 66+/-14 and 57% of the patients were male. Thirty-one(44%) of the patients received IV-tPA. The median pre-procedure NIHSS was 19(IQR,13-23).

The distal occlusion was the primary treatment location in 54 patients and in 16 patients the distal occlusion was treated as a rescue strategy after successful treatment of a proximal LVOS. The locations of the primary cases were MCA-M3(n=21), ACA with concomitant MCA-M1 or MCA-M2(n=16), ACA alone(n=9), PCA(n=6), and ACA with a concomitant MCA-M3(n=2). The locations of the rescue cases were MCA-M3(n=8), ACA(n=7), and both MCA-M3 and ACA(n=1).

The most common treatment modalities employed were intra-arterial tPA (n=37,52%), small (3mm) stent-retrievers (n=24,33%), and thromboaspiration (n=30,42%). Near or complete reperfusion (mTICI 2b-3) was achieved in 56 cases (80%). There were 3(4.3%) parenchymal hematoma in the territory of the treated distal occlusion with two of these patients also receiving IV tPA. At 90 days, 24 patients (40%) had a mRS of 0-2 and 13 (21%) had died.

Conclusions

Distal intracranial occlusions can be treated safely and successfully with endovascular therapy. Although promising our results need to be corroborated by larger prospective controlled studies.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe treatment strategies for distal occlusions 2) Describe our single center database on the subject (efficacy and safety)

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