

Introduction

Neurointerventionists have been recently enthusiastic in performing endovascular mechanical thrombectomy (MT) for acute ischemic strokes of the posterior circulation (PC). Prompt repermeabilization of the PC has been linked to an increased survival rate. We aim to study the prominence, the safety and the clinical impact of PC-MT.

Methods

Patient medical charts were retrospectively reviewed between 2010-2017. Data on intra-venous tissue plasminogen activator (IV-rtPA), National Institute Health Stroke Scale (NIHSS), Alberta Stroke Program Early CT Scores (ASPECTS), per-procedural complications, mortality, and clinical outcomes, was gathered. The primary outcomes were: (1) safety of PC-MT, (2) functional independence on latest follow-up (mRS score < 2), (3) functional improvement on latest follow-up defined as a de-escalation by one of the mRS score, and (4) overall mortality.

Results

Of 234 patients, 22 (average age 60 years, 41% female) had a MT performed for their PC stroke and constituted our population. All our patients, except one, had a basilar artery stroke. 2/22 (9%) patients had a history of atrial fibrillation and 4/22 (18%) received IV-rtPA. The average NIHSS at admission was 19 (SD=8.2), the average DWI-ASPECTS score was 5.4, the average CT-ASPECTS score was 7.3. 2/22 (9%) patients had tandem embolus, and 3/22 (13.6%) patients had reocclusion after endovascular therapy. The average time from onset of symptoms to procedure was 12 hours (SD=8.8). 11/22 (50%) patients had a delayed MT beyond 8 hours from onset of symptoms. 10/22 (45.5%) patients performed their MT with just Second Generation Stent-Retrievers (SGSR), 2/22 (9%) patients received therapy with large-bore aspiration catheters, 10/22 (45.5%) patients received a salvage thrombus aspiration after failed first-line stent-retrievers thrombectomy. 10/22 (45.5%) patients had a first-pass successful vessel recanalization mTICI > 2. The average time of revascularization was 61.6 min (SD=31.50). 20/22 (91%) had a mTICI > 2b. The average patient follow-up was 95 days (SD=105 days). The average mRS on latest follow-up was 2.2. None of our patients died at latest follow-up. 63% had a decreased mRS score reflecting an amelioration of their functional status on latest follow-up.

Conclusions

We recommend endovascular thrombectomy for patients with PC strokes. PC-MT should be performed safely beyond 8 hours from onset of symptoms. MT would reduce long-term morbi-mortality in patients with PC strokes.

Learning Objectives

MT is a safe and highly efficacious first-line therapy for acute BAOs. PC-MT provides a high rate of long-term functional independence, and guarantees a chance of functional improvement in a large portion of PCS patients. Delayed PC thrombectomy is broadly feasible and safe beyond 8 hours, and should not be confined to patients presenting in the first 6 hours from onset of symptoms.

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