

Introduction

Acute ischemic stroke accounts for out of every 20 mortalities in the country. Approximately 795,000 patients each year suffer from new or recurrent strokes, making it the second leading cause of death in the US. We study the rate of vessel re-occlusion and consequent stroke after mechanical thrombectomy(MT) and we report their clinical outcome on latest follow-up.

Methods

Of 215 consecutive patients who initially received MT with second generation stent retrievers(SGSR), 15 patients were retrospectively identified, between March 2012 and November 2016 to have a clinically manifest stroke with a documented re-occlusion in the same initially recanalized vessel. Time from onset of symptoms to groin puncture, duration of procedure, NIHSS at admission and discharge, need for MT, per-procedural complication, and patient clinical well-being (mRS<3) were all collected.

Results

Of 215 patients (mean of age=57.3years, 67% females) who had an initial stroke and were treated with MT, 15(6.97%) patients precipitated re-occlusion with subsequent infarct in the same territory of the initially recanalized vessel. 3 patients had a prior history of stroke. 3 patients continued to smoke after their initial stroke. Mean NIHSS at admission was 18(SD=9.6). only 3 patients received IV-tPA. 2 patients had tandem lesions. All were treated with the Solitaire® FR Device. The average time from onset of symptoms to groin puncture was 13.5hrs (SD=10.3hrs). The average time to revascularization was 2.2hrs(SD=1.5). The average number of passes needed for recanalization was 2(SD=0.8). 11/15(73.3%) of the patients had a TICI score of 3. Per-procedural hemorrhage and vessel dissection were seen in 1 patient respectively. NIHSS at discharge was on average 6.6 (SD=8.7). The mean patient follow-up was for 27months(SD=21). 5/15(33%) patients expired. The average mRS on latest follow-up was 3.3.

Conclusions

Vessel re-occlusion after recanalization with SGSR is a possible complication. Recurrent stroke in the same vessel should be foreseen in almost 7% of these patients. Secondary stroke is strongly linked to worst clinical outcome and a high likelihood of fatality.

Learning Objectives

-Mechanical thrombectomy might be followed with a clinically manifest re-occlusion in almost 7% of cases