Efficacy and Safety of Mechanical Thrombectomy using Larger Bore Jet 7 Aspiration Catheters for Intracranial Large Vessel Occlusion

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Purpose To report initial experience of a Direct Aspiration first-Pass Thrombectomy (ADAPT) technique using larger bore JET 7 aspiration catheters in patients experiencing acute ischemic stroke secondary to intracranial large vessel occlusions (LVO).

Materials and methods COMPLETE is a prospective, single-arm, multi-center observational registry, including patients with intracranial LVO who are eligible for mechanical thrombectomy and have planned frontline treatment with Penumbra System. We performed an interim analysis in patients treated with new larger bore JET 7 aspiration catheters (inner diameter of 0.072”). Primary outcomes included angiographic revascularization of the occluded target vessel at immediate post-procedure as defined by an mTICI 2b or higher, functional outcome at 90 days post-procedure as defined by a mRS 0–2, and all-cause mortality at 90 days. Secondary outcomes included incidence of device- and procedure-related serious adverse events (SAEs), occurrence of embolization in previously uninvolved (or new) territories (ENT), and occurrence of symptomatic intracranial hemorrhages (sICH) at 24 hours.

Results Fifty-five patients (mean age 66.5 ± 13.0; 50.9% female) treated at 12 sites in the US were included in this analysis. Baseline NIHSS (mean ± SD) was 14.8 ± 7.3. Median ASPECT Score was 9.0 (IQR, 8.0–10.0). Target vessel location was the internal carotid artery or terminus in 18.2% (10/55), M1 in 52.7% (29/55), M2 in 16.4% (9/55), and posterior circulation in 12.7% (7/55) of patients. Median procedural time was 28.0 minutes (IQR, 16.0–50.0).

Successful revascularization (mTICI 2b or higher) was achieved in 92.6% (50/54) of patients. Good functional outcome (mRS 0–2) at 90 days was observed in 42.9% (6/14) of patients; follow-up data collection is ongoing. Mortality occurred in 10.9% (6/55) of patients. Procedure- and device-related SAEs occurred in 5.6% (3/54) and 1.9% (1/54) of patients, respectively. Vessel dissection was reported in 1.9% (1/54) of patients. There were no occurrences of sICH, ENT, or vessel perforation.

Conclusion In this initial experience, the safety and efficacy of Penumbra System with larger bore JET 7 aspiration catheters for patients with LVO is acceptable and comparable to other aspiration catheters. Use of larger bore aspiration catheters resulted in fast overall procedural time.

Disclosures A. Hassan: 1; C; Penumbra. 2; C; Penumbra, GE Healthcare, Medtronic, Stryker, MicroVention, Genentech. 3; C; Penumbra, GE Healthcare, Medtronic, Stryker, MicroVention, Genentech. J. Fifi: 1; C; Penumbra. 2; C; Penumbra. O. Zaidat: 1; C; Penumbra, Stryker, Genentech, Medtronic Neurovascular. 2; C; Penumbra, Medtronic Neurovascular, Codman, Stryker.

E-143 SHORT-TERM IN-HOSPITAL OUTCOMES OF THROMBOLYSIS FOR ACUTE ISCHEMIC STROKE PATIENTS WITH NON-PRIMARY BRAIN TUMORS AND PERIPHERAL VASCULAR DISEASE

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Background Intravenous thrombolysis remains an underutilized treatment for acute ischemic stroke (AIS) due to several relative and absolute contraindications. Previous studies have found similar outcomes after thrombolysis between AIS patients with benign brain tumors and AIS patients without. This study aims to investigate short-term outcomes of thrombolytic treatment for the greater majority of AIS patients who have no history of primary brain tumors, particularly those with peripheral vascular disease (PVD).

Methods This retrospective cohort study utilized data from the 2012–2015Q3 Nationwide Inpatient Sample (NIS). ICD-9 codes identified adult patients (ages 18+) who suffered acute ischemic stroke and received intravenous thrombolysis, and then further