E-065 SOLITAIREX 6X40 REVASCLARIZATION DEVICE FOR M2 SEGMENT THROMBOEMBOLISM: PRELIMINARY SAFETY AND EFFECTIVENESS OUTCOMES

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Background The SolitaireX revascularization device (Medtronic, Irvine, CA) is deliverable through an 021 microcatheter and incorporates a parametric stent design resulting in lower radial force in smaller diameter vessels compared with Solitaire Platinum and Trevo (Stryker Neurovascular, Fremont, CA), in spite of its large 6 mm diameter. The combination of low radial force and ease of delivery make the device an attractive choice for (M2 segment) thromboembolism.

Purpose To report our preliminary safety and effectiveness outcomes of the SolitaireX 6 × 40 mm (SX) for treatment of M2 segment thromboembolism.

Methods Procedure data representing embolectomies performed at a comprehensive stroke center between 9/5/2019 and 2/7/2020 were reviewed for use of the SX. Collected data include location and size of treated arteries, utilization of balloon guide catheters (BGC) or distal aspiration (DAC), and revascularization success (M2 TICI ≥ 2B). Post procedure imaging and clinical data was reviewed for evidence of radiographic complications with the primary safety endpoint being SICH (ECAS definition). 90 day mRS were determined by phone interview by a trained nurse practitioner.

Results 24 cases utilizing the SX were identified during the study period and an M2 segment was treated in 14 instances (7 representing primary M2 segment occlusions, 2 tandem cervical ICA/M2 occlusions, the remainder salvage following primary M1 segment occlusion). Completion M2 TICI ≥ 2B was 12/14 (86%). 90d mRS scores were available for 5 of the 14 cases representing treated M2 segment thromboemboli with mRS ≤ 2 recorded in 2/5 (40%). Additional clinical and outcome data is summarized below.

Post procedure SAH was observed in 4/14 (28.6%) cases and was trace volume in all but one case where there was significant SAH and PH1 hemorrhage. This case represented the only SICH and was observed after two unsuccessful M2 passes of the SX (M2 TICI 0) as salvage following a M1 segment direct aspiration embolectomy. A fifth patient had non-symptomatic HT1 hemorrhagic conversion. Overall rate of any ICH 5/14 (36%), rate of SICH 1/14 (7.1%).

Conclusion The SolitaireX 6 × 40 mm revascularization device can be used for M2 segment thromboembolism. The

one significant complication in this cohort (SICH due to combined PH1 hemorrhagic conversion and SAH) may have been attributable to factors independent of the revascularization device. Treated arteries ranged from 1.5 – 2 mm and there was an overall good safety profile and high angiographic success rate.

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E-066 FIRST U.S. EXPERIENCE WITH THE R⁴Q DISTAL ACCESS CATHETER FOR CONTACT ASPIRATION MECHANICAL THROMBECTOMY IN EMERGENT LARGE VESSEL OCCLUSION ACUTE ISCHEMIC STROKE

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Background Novel devices are being developed to maximize the efficacy of mechanical thrombectomy (MT). The MIVI R⁴Q series of distal access catheters has a unique design with an 0.20-inch wire (117 cm length) that replaces the proximal three quarters of the catheter and is attached to a distal catheter (25 cm length). The proximal end is flared with an outside diameter of 0.088 inch so that the outside is sealed with the inside of an 8F guide catheter allowing direct aspiration from the guide catheter thus providing greater aspiration force than smaller diameter catheters. This is the first report of patients in the United States using this technology to perform contact aspiration (CA).

Methods We retrospectively reviewed all patients who underwent MT with the R⁴Q system at three high volume stroke centers. Baseline demographic and clinical data, as well as technical and clinical outcomes were recorded. Statistical comparison of rates of successful revascularization (SR) mTICI score 2b-3 and first pass effect (FPE) with MIVI technology were compared to the CA arms of ASTER and COMPASS using the Fischer's Exact Test.

Results 32 consecutive patients were identified. Median presenting NIHSS score at admission was 18. The site of occlusion was the middle cerebral artery M1 segment in 11 (34.4%), M2 segment in 6 (19%), M3 segment in 1 (3.1%), internal carotid artery in 8 (25%), tandem cervical ICA and intracranial occlusion in 2 (6.2%), ACA in 2 (6.3%), and basilar artery in 2 (6.3%). The R⁴Q was successfully delivered to the point of occlusion in 28 (87%) patients. SR to mTICI score 2b-3 on FPE was achieved in 21/32 (65%) patients and 16/26 (62%) patients where the R⁴Q was successfully delivered without a stent retriever. Final mTICI 2b-3 was achieved in 29/32 (91%) patients and 26/28 (93%) patients where the R⁴Q was successfully delivered. Three (9%) patients had intracranial hemorrhage – all HI1 (ECASS 2), 2 (6%) patients had vasospasm, and 1 (3%) patient had an embolus to a new territory. Fourteen patients (44%) had a 90-day modified Rankin scale (mRS) 0–2. SR with MIVI was similar to results from ASTER (91% vs. 85%, p=0.58) and COMPASS (91% vs 83%, p=0.41). FPE with MIVI was more frequent than in ASTER (62% vs. 26%, p=0.0009) and equivalent to COMPASS (62% vs 57%, p=0.83) and more frequent in comparison to the combined ASTER and COMPASS cohort (62% vs. 40%, p=0.04).

Abstract E-065 Table 1 Summarized clinical and outcome data

Age, Median (IQR)	84	(69.2–86.5)
Female, N (%)	7	(50.0)
Right, N (%)	9	(64.2)
NIHSS, Median (IQR)	16	(11.5–18.5)
Vessel Diameter (mm), Ave. (SD)	1.75	(0.25)
Completion M2 TICI ≥ 2B, N (%)	12	(85.7)
SICH, N (%)	1	(7.1)
90 d mRS ≤ 2, N/N Aval. (%)	2/5	(40)