Median NIHSS score at 24 hours postprocedure was 3 (IQR 1–12). Thirty-eight percent of patients had a good clinical outcome (modified Rankin scale between 0–2) at 3–6 month follow up.

Conclusion eCAS using the Casper stenting system is effective and technically feasible in patients presenting with acute stroke and concomitant carotid artery stenosis.

Disclosures A. Lamanna: None. **J. Maingard:** None. **H. Kok:** None. **C. Barras:** None. **A. Jhamb:** None. **V. Thijs:** None. **R. Chandra:** None. **D. Brooks:** None. **H. Asadi:** None.

P-007 FIRST PASS EFFECT ANALYSIS USING THE TREVO STENT-RETRIEVER ACUTE STROKE (TRACK) REGISTRY

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10.1136/neurintsurg-2019-SNIS.43

Background and objective The first pass effect (FPE) has become a novel measure for neurointerventionalists, achieving a complete recanalization with a single thrombectomy device pass, which has been shown to be associated with higher rates of good clinical outcomes. We describe and expand the FPE to one of a large US post-marketing registry (TRACK, Trevo Stent-Retriever Acute Stroke) to elucidate the effect of a single device pass and clinical outcome.

Methods TRACK was a core-laboratory adjudicated multicenter registry of 634 patients from 23 centers aimed to evaluate the use of the Trevo device in everyday clinical practice. The TRACK registry was utilized to identify an FPE subgroup (n=140). Baseline features including demographics and clinical data were compared with the non-FPE patients (n=469). Clinical outcome measures included modified Rankin Scale score (mRS) at 30 and 90 days, National Institutes of Health Stroke Scale (NIHSS) score, symptomatic intracranial hemorrhage (sICH), and mortality. FPE was defined as a single pass/use of a device with TICI 2c/3 recanalization, and no use of rescue therapy.

Results 609 patients were included in the FPE (140/609, 23%) vs non-FPE (469/609, 77%) subgroup analysis from the TRACK registry. There was no association between patient demographics and FPE group, including age (p=0.36), sex (p=0.50), race (p=0.49), location of occlusion (p=0.26), baseline NIHSS (p=0.61) past medical history including hypertension (p=0.57), atrial fibrillation (p=0.55), diabetes mellitus (p=0.74), hyperlipidemia (p=0.28), coronary artery disease (p=0.27), or history of smoking (p=0.12). The non-FPE group was associated with higher use of intraarterial tPA (FPE: 11% vs non-FPE: 23%). The onset to puncture time in minutes was not significantly different between groups (p=0.31); however, the total procedural time, total fluoroscopic time, and puncture to reperfusion time had significantly shorter mean time in FPE group (p<0.0001 for all variables). Clinical outcomes based on mRS at 30 and 90 days were significantly in favor of the FPE group, p=0.0069 and p<0.0001, respectively. Good clinical outcome (mRS 0–2 at 90 days) was achieved in 63% of FPE group (77/122) compared to non-FPE at 44% (177/398), p=0.0004; furthermore, NIHSS at discharge was significantly lower in FPE group (9.1 ± 11.2) compared to non-FPE (12 ± 11), p=0.0004. Distal emboli in the same territory (EDT) was lower in the FPE group (1/104, 1%) compared to non-FPE (110/371, 30%), p<0.0001; however, no association in embolization into new territory (ENT), sICH, or death (0.99, 0.85, 0.79, respectively).

Conclusion The achievement of complete revascularization from a single Trevo Stent-Retriever device pass is associated with higher rates of good clinical outcomes. Additionally, FPE in our subgroup registry analysis was associated with shorter procedural times, lower NIHSS at discharge, and significantly lower rates of EDT. Our analysis was not able to identify any patient demographics that would be associated to achieve first pass effect. Further research is warranted to confirm findings and identify additional factors achieving good clinical outcome after thrombectomy.

Disclosures M. Mokin: 2; C; Claret Medical, Nogueira-Stryker Neurovascular (Trevo-2 Trial Principal Investigator; DAWN Trial Principal Investigator, TREVO Registry Steering Committee), Medtronic (SWIFT Trial Steering Committee; SWIFT-Prime Trial Steering Committee ; STAR Trial Angiographic Core Lab), Penumbra (3D Separator Trial Executive Committee), Neuravi (ARISE-2 Steering Committee), Genentech (Physician Advisory Board), Allm Inc (Physician Advisory Board). **C. Primiani:** None. **A. Castonguay:** None. **R. Nogueira:** None. **D. Haussen:** None. **J. English:** None. **S. Satti:** 2; C; Stryker Neurovascular. **J. Chen:** None. **H. Farid:** None. **C. Borders:** None. **E. Veznedaroglu:** None. **M. Binning:** None. **A. Puri:** None. **N. Vora:** None. **R. Budzik:** None. **G. Dabus:** None. **I. Linfante:** 2; C; Metronic, Stryker, Penumbra, and Cordis. **V. Janardhan:** None. **A. Alshekhlee:** None. **M. Abraham:** None. **R. Edgell:** None. **M. Taqi:** None. **R. El Khoury:** None. **A. Majjhoo:** None. **M. Kabbani:** None. **M. Froehler:** None. **I. Finch:** None. **S. Ansari:** None. **R. Novakovic:** None. **T. Nguyen:** None. **O. Zaidat:** 6; C; overall PI for TRACK, Arise II, Co-PI Therapy Trial, Steering committee STRATIS registry.