proc edural volumes was significantly associated with faster treatment times, better discharge outcomes, and lower rates of in-hospital mortality and SICH.

Disclosures R. Nogueira: 1; C: Principal Investigators of the ‘Endovascular Therapy for Low NIHSS Ischemic Strokes (ENDOLOW)’ trial. Funding for this project is provided by Cenerovus. 2; C: Anaconda, Biogen, Cenerovus, Genentech, Philips, Hyperemia, Imperative Care, Medtronic, Phenox, Prolong Pharmaceuticals, Stryker Neurovascular, Shanghai Wallaby, Synchroin, Astrocyte, Brainomix, Cerebroctech, Ceretrive, Corindus Vascular Robotics, Velsalio, Viz-AL, RapidPulse, Perfuze. 4; C: Viz-AL, Perfuze, Cerebroctech, Reist/Q’Apel Medical, Truvc, Vastrax, Viseon.

0-060 LOWER BLOOD PRESSURE IS ASSOCIATED WITH GOOD CLINICAL OUTCOME IN PATIENTS WITH BLOOD BRAIN BARRIER DISRUPTION AFTER SUCCESSFUL ENDOVASCULAR THROMBECTOMY

1P Upadhyay*, 2A Mehta, 3M Luby, 4S Ansari, 5J Lynch, 6A Shah, 7L Latour, 8Y Kim, 1Stroke Branch, National Institute of Neurological Diseases and Stroke, National Institutes of Health, Bethesda, MD; 2Neurology, MedStar Georgetown University Hospital, Washington, DC; 3Neurology, Inova Health, Fairfax, VA; 4Comprehensive Stroke Center, MedStar Washington Hospital Center, Washington, DC

Objective To evaluate the association between post-EVT (endovascular thrombectomy) blood-brain barrier (BBB) disruption on MRI and average systolic blood pressure (SBP) with favorable outcome (90-day modified Rankin Scale 0–2).

Background Observational studies have found associations between elevated SBP with intracranial hemorrhage and worse outcomes after EVT. A recent randomized trial found no difference in intensive versus standard BP reduction. It remains undetermined if a subgroup of patients may benefit from targeted BP reduction post-EVT.

Methods This is a single center study of: 1) anterior large vessel occlusion stroke treated with EVT from 2015 to 2021, 2) achieved TICI grade 2b or 3, 3) post-EVT MRI within 6 hours, 4) and patient or surrogate provided written informed consent. Hyperintense acute reperfusion marker (HARM), hemorrhagic transformation (HT) and midline shift at immediate post-EVT and 24-hour imaging were assessed by multiple trained raters. Twenty-four hour average SBP post-EVT, demographic, hemorrhagic, and clinical outcome data were obtained. Binary logistic regression models were used to determine the association of post-EVT SBP with favorable outcome.

Results Of 103 patients, there was no significant difference in favorable 90-day outcome between those with SBP <130 versus SBP ≥ 130 (64% vs. 49%, OR 0.92–7.03, 95% CI, p=0.074). Among 71 patients with BBB disruption (any HARM or HT) on immediate post-EVT MRI, there was a significant difference in favorable outcome, with 64% in SBP <130 vs. 40% in SBP ≥130 group (OR 2.25–131, 95% CI, p=0.006). No differences were found in symptomatic ICH, death at 90-days, midline shift (≥ 5 mm), or hemorrhagic, and clinical outcome data were obtained. Binary logistic regression models were used to determine the association of post-EVT SBP with favorable outcome.

Conclusions BBB disruption on immediate post-EVT MRI with lower SBP was associated with a favorable outcome. Early imaging evidence of BBB disruption could select patients who benefit from intensive targeted BP therapy and suggests a need for a randomized clinical trial.

Disclosures P. Upadhyaya: None. A. Mehta: None. M. Luby: None. S. Ansari: None. J. Lynch: None. A. Shah: 1; C; NIH-NINDS. L. Latour: 1; C; NIH-NINDS. Y. Kim: None.

0-061 PREDICTORS OF FAILED MECHANICAL THROMBECTOMY FOR LARGE VESSEL OCCLUSION: INSIGHTS FROM THE STROKE THROMBECTOMY AND ANEURYSM REGISTRY (STAR)

1M Webb*, 2M Essibay, 3S Al Kasab, 4I Maier, 5M Psychogiou, 6A Alawieh, 7S Wolfe, 8A Arthur, 9T Dumont, 10P Kan, 11K Kim, 12R De Leacy, 13J Osbun, 14A Rai, 15J Jabbour, 16M Park, 17R Croso, 18M Levitt, 19A Poliffka, 20W Casagrande, 21Yoshimura, 22C Matouk, 23R Williamson, 24E Gory, 25M Mokim, 26A Fragata, 27D Romano, 28J Chowdry, 29M Moss, 30D Behme, 31K Limaye, 32A Spicotta, 33I Mascielli, 34Neuroscience, University of Texas Health Science Center at San Antonio, San Antonio, TX; 35Neuroscience, Medical University of South Carolina, Charleston, SC; 36Neuroscience, University Medicine Göttingen, Göttingen, Germany; 37Neuroscience, Department of Neuroradiology University Hospital Basel, Switzerland, Basel, Switzerland; 38Neuroscience, Department of Neuroscience Emory University School of Medicine, Atlanta, GA; 39Neuroscience, Department of Neuroscience Wake Forest School of Medicine, Winston Salem, NC; 40Neuroscience, Semmes-Murphy Neurologic and Spine Clinic, University of Tennessee Health Science Center, Memphis, TN; 41Neuroscience, Department of Neuroradiology University of Arizona Health Sciences, Tucson, Tucson, AZ; 42Neuroscience, Department of Neurosurgery Baylor School of Medicine, Houston, Houston, TX; 43Neuroscience, Department of Neurology Chonnam National University Hospital, Seoul, Korea, Republic of; 44Neuroscience, Department of Neurosurgery Mount Sinai Health System, New York, New York City, NY; 45Neuroscience, Department of Neurosurgery Washington University School of Medicine, St. Louis, MO; 46Neuroscience, Department of Radiology West Virginia School of Medicine, Morgantown, WV; 47Neuroscience, Department of Neurosurgery Thomas Jefferson University Hospitals, Philadelphia, PA; 48Neuroscience, Department of Neurosurgery University of Virginia, Charlottesville, VA; 49Neuroscience, Department of Neurosurgery Endovascular Neurological Center, Montevideo, Uruguay; 50Neuroscience, Department of Neurosurgery University of Washington, Seattle, WA; 51Neuroscience, Department of Neurosurgery University of Florida, Gainesville, FL; 52Neuroscience, Department of Cerebrovascular and Endovascular Neurosurgery Hospital Juan Fernandez, Buenos Aires, Argentina; 53Neuroscience, Department of Neurosurgery Hyogo College of Medicine, Nishinomiya, Hyogo, Japan; 54Neuroscience, Department of Neurosurgery Yale School of Medicine, New Haven, CT; 55Neuroscience, Department of Neurosurgery Allegheny Health Network, Pittsburgh, PA; 56Neuroscience, Department of Diagnostic and Therapeutic Neuroradiology Centre Hospitalier Regional Universitaire de Nancy, Nancy, France; 57Neuroscience, Department of Neuroradiology University of South Florida, Tampa, FL; 58Neuroscience, Department of Neuroradiology Hospital São José Centro Hospitalar, Lisboa, Portugal; 59Neuroscience, Neurosciences Department Aou S. Giovanni I Dio e Ruggi d’Aragona Hospital, Italy, Via San L. eonardo, Italy; 60Neuroscience, Department of Neurosurgery NorthShore University Health System, Evanston, IL; 61Neuroscience, Department of Interventional Neuroradiology Washington Regional Medical Center, Fayetteville, AZ; 62Neuroscience, Department of Neuroradiology University Hospital Magdeburg, Magdeburg, Germany; 63Neuroscience, Department of Neurology Indiana University, Indianapolis, IN; 64Neuroscience, Department of Neurological Surgery Medical University of South Carolina, Charleston, SC

Background Mechanical thrombectomy (MT) is the standard of care for acute ischemic stroke secondary to large vessel occlusion (LVO). MT success (MTS) is associated with a five times greater chance of achieving a favorable clinical outcome. Despite major advances in catheter and stent retriever (SR) technology, MT failure (MTF) still occurs in approximately 15% of cases. The purpose of this study is to investigate the patient and procedural characteristics that predict MTF.

Methods This is a retrospective review of the prospectively collected, multi-center, multi-national Stroke Thrombectomy and Aneurysm Registry (STAR). Patients who underwent MT for anterior or posterior circulation LVO were included. Patients were categorized by MTS or MTF, defined as modified Thrombolysis in Cerebral Infarction (mTICI) 2b or
greater and less than mTICI 2b, respectively. Patient demographics, pretreatment information, and treatment information were compared and then included in a univariate (UVA) and multivariate analysis (MVA) for prediction of MT.

**Results** A total of 8452 patients were included in the analysis, of whom 1301 (15.4%) experienced MT. Patients in the MTF group were older (73 vs 71 years, p=0.008) and had higher percentage of poor pre-morbid mRS (10.8% vs 8.4%, p=0.17). No significant differences were found between race, sex, pre stroke medical comorbidities or Alberta Stroke Program Early CT Score (ASPECTS). Onset to puncture was greater in the MTF group (442 vs. 411 min, p=0.006). There were more ICA occlusions (15.6% vs. 13.5%) and basilar occlusions (7.8% vs. 6.2%) in the MTF group and more M1 occlusions (42.2% vs 37.5%) in the MTS group (p<0.001). More patients underwent aspiration as the final technique in the MTS group (35.3% vs 32.9%). Number of passes (3 vs 2) and total procedure time (77.3 vs 46.1 min) were higher in the MTF group (p<0.001). More patients in the MTF group required IA thrombolytic (14.7% vs. 8.3%, p<0.001). More patients in the MTS group had rescue intracranial stenting (7.9% vs 4.8%). There were more complications (14.7% vs 6.2%) and more symptomatic ICH (9.9% vs 5.7%, p<0.001) in the MTF group. Favorable outcome at 90 days was greater in the MTS group (42.6% vs 18.3%, p<0.001). On UVA, age, poor pretreatment mRS, posterior circulation occlusion, final technique SR, increased number of passes, and increased procedure time were associated with increased odds of MTF, while M1-M2 occlusions and rescue intracranial stenting with decreased odds of MTF. These correlations remained significant on MVA for final technique SR, rescue intracranial stenting, number of passes, and procedure time.

**Conclusion** In one of the largest studies to evaluate factors associated with failure MT in real world practice, we demonstrate that MTF is associated with significantly more complications and worse outcome. Final use of aspiration and rescue intracranial stenting may increase chances of recanalization.


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**Methods** A systematic literature review and meta-analysis was completed in accordance with PRISMA guidelines. Outcomes of endovascular thrombectomy in patients with active malignancy were compared to patients without cancer. Comparative studies were identified within the literature and quantitatively synthesized. The primary outcome measures were functional independence at 90 days defined as a modified Rankin score (mRS) of 0–2, 90-day mortality rate, post-thrombectomy recanalization grade defined as mTICI ≥2b, and post-procedural ICH. A random effects model was used to calculate pooled odds ratios (OR) for each outcome variable along with corresponding 95% confidence intervals (CI).

**Results** From the systematic review, 8 comparative studies were identified with a total of 2,535 patients. There were 184 patients identified with active cancer and 1,932 patients without active malignancy who underwent endovascular thrombectomy for acute stroke. On meta-analysis, patients with active cancer had a significantly lower odds of achieving an mRS of 0–2 at 90 days (OR: 0.54, CI: 0.37 to 0.78, P = 0.001, I² = 0%). The 90 day mortality rate was also higher in cancer patients (61/184; 33%), compared to non-cancer patients undergoing thrombectomy (246/1,932; 12.8%) (OR: 3.48, CI: 2.23 to 5.44, I² = 38%). Patients with active cancer also had a higher odds of post-procedural ICH (OR: 2.45, CI: 1.01 to 5.97, P = 0.05, I² = 78%). However, there was no differences in post-thrombectomy recanalization between the two groups of patients (OR: 0.87, CI: 0.56 to 1.34, P = 0.52, I² = 5%).

**Conclusion** On meta-analysis, patients with current malignancy experience inferior outcomes after embolectomy with respect to hemorrhage, functional independence, and mortality in spite of recanalization results similar to non-cancer patients. Further research is needed to optimize endovascular management for this sub-population of stroke.

**Disclosures** D. Scharzt: None. M. Bender: None. G. Kohli: None. S. Akkipeddi: None. N. Ellens: None. T. Bhalla: None. T. Mattingly: None.

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**Introduction** First-pass reperfusion effect (FPE) has been shown to be associated with improved clinical outcomes and reduced mortality in mechanical thrombectomy (MT) for patients with large vessel occlusion strokes (LVOS). However, FPE is achieved in less than 30% of patients undergoing MT with the current technology.

**Materials and Methods** We report on the prospective, multi-center, first-in-human experience of the RapidPulse™ Cyclic Aspiration System. This novel technology consists of a valve box that precisely and rapidly cycles the vacuum pressure from full vacuum to no vacuum 8 times per second. Patients with acute ischemic stroke (AIS) due to LVO involving the intracranial internal carotid artery (ICA), M1 and M2 segments of the middle cerebral artery (MCA), basilar artery...