Oral Abstracts

O-001 PREDICTORS OF THE FIRST PASS EFFECT WITH NEUROTHROMBECTOMY FOR ACUTE ISCHEMIC STROKE

[1]A Jadhav*, [2]O Zaidat, [1]S Desai, [3]R Nogueira, [4]N Mueller-Kronast, [5]T Jovin, [6]D Liebeskind. [1]*University of Pittsburgh Medical Center, Pittsburgh, PA*; [2]*Neuroscience Institute, Mercy Health St. Vincent Medical Center, Toledo, OH*; [3]*Neurology, Emory University, Atlanta, GA*; [4]*Advanced Neuroscience Network/Tenet South Florida, Coral Springs, FL*; [5]*Cooper University Hospital Neurological Institute;, Camden, NJ*; [6]*University of Pittsburgh Medical Center, Los Angeles, CA*

10.1136/neurintsurg-2019-SNIS.1

Introduction Achieving complete revascularization after a single attempt with mechanical thrombectomy (First pass effect, FPE) in the setting of an acute ischemic stroke due to large vessel occlusion (LVO) is associated with significantly higher rates of a good clinical outcome. We aim to identify predictors of FPE in a large real word registry of patients undergoing thrombectomy.

Methods Data were analyzed from the STRATIS registry – a prospective, nonrandomized study of patients undergoing neurothrombectomy with the Solitaire device. A total of 984 patients treated at 55 sites were analyzed. Univariate and multivariable logistic regression was used to assess the relationship between patient characteristics (demographics, clinical, occlusion location, collateral grade) and procedural features with FPE. Complete data was only available for 930 patients.

Results First pass effect was achieved in 40% (ns=372) of patients. Patients in the FPE group were older (69 ±15 vs 67 ±15 years, p=0.02) and had less internal carotid artery (ICA) occlusions (17% vs 28%, p=0.001). While rates of symptomatic intracranial hemorrhage (0.6% vs 2.2%, p=0.13) were comparable, rates of mRS 0–2 at 90 days were higher (66% vs 49%, p≤0.001) and mortality at 90 days (12% vs 19%, p=0.008) were lower in the FPE group compared to the non-FPE group. Multivariable regression analysis identified absence of ICA occlusion (p=0.01), the use of a balloon guided-catheter (p=0.001) and better collateral grade (p≤0.001), as independent predictors of FPE.

Conclusion Non-ICA site of occlusion, the use of a balloon-guided catheter and better collateral grade are independent predictors of FPE. Further understanding of these factors may influence choice of thrombectomy device and technique.

Disclosures A. Jadhav: None. **O. Zaidat:** None. **S. Desai:** None. **R. Nogueira:** None. **N. Mueller-Kronast:** None. **T. Jovin:** None. **D. Liebeskind:** None.

O-002 PREDICTORS OF UNFAVORABLE OUTCOMES AND MORTALITY DESPITE SUCCESSFUL RECANALIZATION: AN ANALYSIS OF ARISE II DATA

[1]A Siddiqui*, [2]M Waqas, [3]T Andersson, [4]J Saver, [5]H Mattle, [6]H Bozorgchami, [7]R Chapot, [8]A Narata, [9]A Yoo, [10]M Ribo, [11]O Zaidat. [1]*Neurosurgery, State University of New York at Buffalo, Buffalo, NY*; [2]*UB Neurosurgery, Buffalo, NY*; [3]*Neuroradiology, Karolinska Institute, Stockholm, SWEDEN*; [4]*Ronald Reagan UCLA Medical Center, Los Angeles, CA*; [5]*Neurological Polyclinic and the Stroke Center, Bern, SWITZERLAND*; [6]*Neurology, Oregon Health and Science University, Portland, OR*; [7]*Alfred Krup Hospital, Essen, GERMANY*; [8]*University Hospital of Tours, Tours, FRANCE*; [9]*Texas Stroke Institute, Plano, TX*; [10]*Hospital Vall d'Hebron, Barcelona, SPAIN*; [11]*Mercy St Vincent Medical Center, Toledo, OH*

10.1136/neurintsurg-2019-SNIS.2

Background A significantly large number of patients with emergent large vessel occlusion (ELVO) fail to achieve favorable outcomes despite successful recanalization. Why some patients do not achieve functional independence despite successful revascularization is an important question. There is a paucity of prospective data on the predictors of unfavorable outcomes despite successful recanalization during mechanical thrombectomy for ELVO.

Objective This study was performed to determine the predictors of unfavorable outcomes in patients receiving successful recanalization (modified thrombolysis in cerebral infarct, mTICI grade ≥2b) in a prospective multicenter cohort of patients with ELVO.

Methods This was a secondary analysis of data collected from ARISE II study (Analysis of Revascularization in Ischemic Stroke With EmboTrap). ARISE II was a prospective, multicenter single arm study on the efficacy of EmboTrap Revascularization Device. Patients who achieved mTICI score of 2b or greater within 3 passes were included in this study. Patients with incomplete follow up were excluded from the study. A univariate and multivariate logistic regression was performed to determine the independent predictors of unfavorable outcomes at 90 days (defined as mRS 3–6). The variables tested as predictors included age, gender, collateral grade, ASPECTS, mode of transfer, National health institute stroke scale (NIHSS) score, use of intravenous tissue plasminogen activator, number of passes, clot location, final mTICI and symptomatic intracranial hemorrhage (sICH). Odds ratio (OR) with 95% confidence interval (CI) were reported.

Results One hundred seventy six patients were included in this secondary analysis of ARISE II data. Unfavorable outcomes (mRS=3–6) at 3 months were seen in 52 (29.6%) patients. Females constituted 54.88% of total population. Mean age was 67.15 years. Mean NIHSS score was 15.85±4.71. M1 was the most common site of occlusion with 54.55% followed by M2 (25.0%) and ICA (15.91%). Delay from stroke onset to the deployment of stent retriever was 3.97±1.44 hours. Ninety (51.14%) patients required a single pass. On univariate logistic regression analysis age, ASPECTS, collateral grade, time from stroke onset to the deployment of stent retriever, duration of procedure, NIHSS score, and sICH were found to be significant predictors of unfavorable outcomes. On multivariate analysis collateral grade (OR, 0.24, 95% CI 0.06–0.94, p value 0.04), NIHSS score (OR 1.28, 95% CI 1.15–1.43, p value <0.001), and number of passes (OR, 2.08, 95% CI 1.40–3.10, p value 0.0003) were found to be independent predictors of unfavorable outcomes in patients with successful recanalization.

Abstract O-002 Table 1 Multivariable logistic regression model of 90-day mRS failure

	Odds Ratio			
Parameter[6]	Estimate	95% Lower Limit	95% Lower Limit	P-value
Collateral Grade[7]	0.24	0.06	0.94	0.0404
NIH Stroke Score (per point)	1.29	1.12	1.49	0.0003
Num. of Passes (per pass)	1.90	1.10	3.28	0.0224