



Abstract E-095 Figure 1

ADAPT074 treatment group with the largest bore catheter; where 80% of runs scored a TICI 3 after one attempt (see figure 1). Complete ingestion was observed in 90% of cases with the ADAPT074 technique, while the ADAPT068-BGC and ADAPT068 groups achieved rates of 70% and 60% respectively.

Conclusion BGC protected thrombectomy has been shown to reduce distal emboli for stent-retrievers previously. These preliminary data show that BGC protected thrombectomy also imparts benefit for ADAPT. The larger bore aspiration (ADAPT074) achieved the highest rate of first pass recanalization and complete clot ingestion.

Disclosures R. Arslanian: None. M. Marosfoi: 2; C; Stryker Neurovascular, InNeuroCo. Inc., ThrombX. C. Raskett: None. M. J. Gounis: 1; C; Cerenovus, Imperative Care, MIVI Neurosciences, Stryker Neurovascular, National Institute of Health (NIH), US-Israel Binational Science Foundation, Anaconda, Cook Medical, Gentuity, InNeuroCo, Magneto, Microvention, Medtronic Neurovascular, Neuravi, Neurogami, Philips Healthcare, Rapid Medical, Route 92 Medical, Syntheon, Wyss Institute. 2; C; Cerenovus, Imperative Care, MIVI, Phenox, Route 92 Medical, Stryker Neurovascular. 4; C; Imperative Care, Neurogami. A. S. Puri: 1; C; Medtronic Neurovascular, Stryker Neurovascular. 2; C; Medtronic Neurovascular, Stryker Neurovascular. J. Chueh: 2; C; Stryker Neurovascular, InNeuroCo. Inc.

E-096

WHICH PATIENTS WITH PROXIMAL OCCLUSION STROKES MAY NOT GET REFERRED FOR ENDOVASCULAR THROMBECTOMY? INSIGHTS FROM AN INTERNATIONAL MULTIDISCIPLINARY SURVEY

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10.1136/neurintsurg-2019-SNIS.171

Background The use of endovascular thrombectomy (EVT) is increasing in patients with large vessel occlusion (LVO) strokes. A few areas of uncertainty remain, and multiple trials are under way to address some of these questions. To guide future trials and to address practice gaps, knowledge of the cases where physicians are hesitant to offer EVT will be helpful.

Methods An international web-based survey was sent to practitioners in 38 countries to assess their decision-making toward selecting the management approach for LVO strokes in real-world. Ten case scenarios were randomly presented to each respondent from a pool of 22 cases. Participants were asked to choose whether they would offer EVT in that scenario in

their current practice settings. We identified and summarized the cases in which the decision to perform EVT was significantly lower than the overall median for EVT use. We investigated the factors that may have influenced the decision to withhold EVT and the level of evidence for EVT in these cases according to the American Stroke Association guidelines.

Results 607 physicians (mean age of 44 (SD 8.5) years, 83.5% men, 53.6% neurologists, 28.7% neuro-interventionists, 13.3% neurosurgeons, 4.7% other) participated. The median number of participants who scored each scenario was 276. In the overall cohort, the median responses in favour of EVT in the participants' current practice setting were 78.7%.

Ten scenarios received a significantly lower response in favour of EVT than the cohort median. These cases had a median EVT use of 60.3%. Nine scenarios describe cases in which level 2B guideline recommendation for EVT exist while one scenario had a 1A level of evidence.

The scenarios with low EVT use describe patients with poor baseline functional status (EVT use 66.4%), patients with M2-occlusion (EVT use 61.3%), mild clinical deficits (EVT use 60.4%), baseline ASPECTS \leq 4 (EVT use 57%), or with isolated intracranial carotid occlusion but patent MCA (EVT use 55.6%).

Conclusion Occlusion site, clinical symptoms severity, and low ASPECTS scores were determinant factors in the low responses in favour of EVT in our survey.

Disclosures N. Kashani: None. J. Ospel: None. A. Wilson: None. M. Hill: None. B. Menon: None. G. Saposnik: None. M. Goyal: None. M. Almekhlafi: None.

E-097

EMERGENT CAROTID ARTERY STENTING IMPROVES NEUROLOGICAL OUTCOME IN PATIENTS WITH ACUTE ISCHEMIC STROKE

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10.1136/neurintsurg-2019-SNIS.172

Background and Purpose Emergent carotid artery stenting (CAS) is technically challenging and has concerns for clinical outcome and complications. Moreover, there is no definite guidelines for endovascular treatment of tandem lesion in acute ischemic stroke.

Materials and methods Multicenter retrospective study including three hospitals was performed. Forty-five patients with acute ischemic stroke by atherosclerosis of the extracranial carotid artery were enrolled. Mean age was 73.8 (59–98) and male to female ratio was 38:7. Mean initial NIHSS was 12.8 (4–28). Intravenous t-PA was used in 20 (44.4%) patients. Mean initial stenosis of the ICA was 99.3%. Favorable

neurological outcome was defined as modified Rankin Scale (mRS) ≤ 2 within 6 months clinical follow-up.

Results Enrolled patients were categorized into two groups: emergent CAS (n=27) or medical treatment (n=18). Reasons for medical treatment were as follows: spontaneous neurological improvement (n=4), technical failure of emergent CAS (n=7) and good collateral circulation (n=7). Good angiographic outcome (mTICI 3 or 2b) was achieved in 25 (92.6%) patients of the emCAS group. Reocclusion (n=3) and hyperperfusion syndrome (n=3, massive intracerebral hemorrhage, cerebral edema and status epilepticus) were identified after emergent CAS. Hemorrhagic transformation was developed in 11 (40.7%) patients of the emergent CAS group and 3 (16.7%) patients of the medical treatment group (p=0.11). The emergent CAS group showed a favorable neurological outcome (51.9% vs 22.2%, p=0.07) and a low rate of recurrent ischemic stroke (p=0.01) compared to the medical treatment group. In multi-variate analysis, no early neurological deterioration before procedure (p=0.04), use of IV t-PA (p=0.03), no intracranial tandem lesion (p=0.02) and emergent CAS (p=0.01) were related with a favorable neurological outcome.

Conclusions Emergent CAS for acute ischemic stroke is technically feasible and may give a chance to achieve good neurological outcome. However, physicians should pay attention to the risk of in-stent thrombosis, hemorrhagic transformation and hyperperfusion syndrome.

Disclosures K. Kim: None. K. Jang: None.

E-098

EFFECT OF ENDOVASCULAR REVASCUARIZATION ON NEUTROPHIL-LYMPHOCYTE RATIO AND RELATIONSHIP TO 90 DAY OUTCOME

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10.1136/neurintsurg-2019-SNIS.173

Purpose Admission Neutrophil-lymphocyte ratios (NLR) is significantly correlated with 90 days functional outcome in acute ischemic strokes. The aim of our study was to detect post thrombectomy changes in NLR over 1 week with various degrees of revascularization and identify a relationship between NLR changes and 90-day functional outcome.

Methods We retrospectively reviewed our prospective stroke database from Nov 2016 to May 2018 for patients who underwent endovascular thrombectomy for anterior circulation large vessel occlusions with an admission NLR (NLR 1) and 72 hours follow-up NLR (NLR 2). We measured stroke severity by NIHSS, degree of recanalization by modified Thrombolysis in Cerebral Infarction (mTICI) score, and clinical outcomes by the modified Rankin Scale (mRS) at 3 months. Univariate analysis was conducted between age, NLR1, NLR2, change in NLR (NLR2-NLR1), NIHSS, mTICI and mRS using correlation coefficient. Change in mean NLR was assessed using Wilcoxon rank sum test. Multivariable logistic regression models were developed to identify effect of NLR 2 on favorable functional outcome (mRS ≤ 2) while controlling for age, NIHSS and IV rtPA utilization.

Results 88 patients met our inclusion criteria with a median NIHSS at admission of 18 (4–32), and 90 days mRS of 3 (0–

6). An increase in NLR was identified in 75% of patients following endovascular thrombectomy. Mean NLR 2 was significantly higher than NLR 1 (5.5 vs 3.1, p<0.001). There was a significantly negative correlation between TICI and change in NLR (p=0.002), and a significantly positive correlation between change in TICI and 90-day mRS (p=0.034), as well as NLR2 and mRS (p<0.001). No correlation was observed between NLR1 and mRS (p=0.22). High NLR2 was an independent predictor of poor functional outcome (OR=1.34, p=0.002).

Conclusion NLR is a readily available biomarker that correlates with degrees of revascularization post-thrombectomy. Improved recanalization and reperfusion is associated with lower follow-up NLR at 72 hours and follow up NLR is an independent predictor of functional outcome.

Disclosures R. Abdalla: None. M. Darwish: None. M. Aly: None. M. Potts: None. B. Jahromi: None. A. Shaibani: None. M. Hurley: None. S. Ansari: None.

E-099

HEMICRANIECTOMY RATES FOLLOWING MECHANICAL THROMBECTOMY PRE-MR CLEAN: A RETROSPECTIVE CROSS-SECTIONAL OBSERVATIONAL ANALYSIS

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10.1136/neurintsurg-2019-SNIS.174

Introduction Acute ischemic stroke (AIS) still remains one of the top leading causes of morbidity and mortality in the United States. In 2007, the DESTINY trial demonstrated lower mortality rates in patients with large hemispheric strokes following hemicraniectomy. 7 years later, the MR CLEAN trial showed improved outcomes in AIS following endovascular mechanical thrombectomy (MT) when compared to intravenous tPA alone. However, during the enrollment period for this trial there remains limited data regarding the effects of MT on the need for hemicraniectomy.

Methods A retrospective analysis of the Nationwide Inpatient Sample (NIS) between 1998–2015 was performed. Patients with an ICD-9-CM diagnosis code indicating an anterior circulation ischemic stroke (433.11, 434.01, 434.11, and 434.91) were included. Patients with an ICD-9-CM diagnosis code indicating trauma, neoplasm, SAH/aneurysm, posterior circulation ischemic stroke, or abscess (191.x, 198.3, 324.0, 430, 433.01, 433.21, 437.3, 437.5, 437.6, 443.24, 747.81, 800.xx, 801.xx, 851.xx, 852.xx, 853.xx, and 854.xx) were excluded. In order to limit the analysis to AIS, patients who did not have the ICD-9-CM procedure code of tPA (99.10) were excluded. Those patients who underwent thrombectomy (39.74) and hemicraniectomy (01.24, 01.25, 01.39, 01.53, and 01.59) were also identified. Logistic regression model was used to analyze the effect of thrombectomy on rates of hemicraniectomy in patients with AIS who received tPA.

Results A total of 59,703 patients in the NIS were identified as having an acute anterior circulation ischemic stroke that subsequently received tPA. 3597 patients were also identified as having undergone MT and 606 patients were found to have undergone hemicraniectomy as well. Logistic regression model demonstrated that patients who underwent MT were significantly more likely to undergo hemicraniectomy (OR 4.52, 95% CI 3.72–5.49, p<0.001).