Abstract E-048 Figure 1

Materials A case presentation with Pubmed search of review articles and case reports.

Results The patient was asymptomatic before his first seizure. His seizure semiology consisted of involuntary clonic activity of his right arm followed by generalization and loss of consciousness. He had multiple episodes en route to the hospital lasting less than a minute with full regain of consciousness in between. He did not complain of a headache on the day of admission. CTH was negative, MRI with and without contrast with MRV showed DWI/ADC signal change on the Left frontoparietal region with hypointensity on GRE sequences correlated with absence signal on MRV at the same region (Arrows in Figure). CT abdomen and pelvis with contrast showed findings suggestive of active colitis. Lumbar Puncture opening pressure and CSF profile were within normal limits. Blood count and anemia studies showed platelet counts of 50 K/uL. Hypercoagulability testing only showed only atypical P-ANCA staining seen in Ulcerative Colitis patients. He was started on levetiracetam, high dose steroids with 1 mg/kg Enoxaparin every 12 hours. He became seizure free but continued to have progression in right arm weakness with drowsiness and was found to have new bilateral venous infarct in parietal regions on day five post admission. He underwent a diagnostic angiogram that only showed partial resolution of flow in the vein of Trolard. The patient was stable afterward and was discharged to rehab. Literature review estimated the prevalence of CVT in UC patients to be around 6%, with the most common headache (80%). The superior sagittal sinus was the most common site of CVT (50%). Most patients were treated with anticoagulation regimens (heparin or low molecular weight heparin) with a good prognosis.

Conclusion Clinicians need to have a low threshold for venous imaging workup in UC patients with acute neurological complaints.

Disclosures A. Kerro: None.

E-049

NORMALIZED INTRAPLAQUE HEMORRHAGE SIGNAL ON MP-RAGE AS A MARKER FOR ACUTE ISCHEMIC NEUROLOGICAL EVENTS

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10.1136/neurintsurg-2021-SNIS.144

Purpose This study sought to validate whether the signal intensity ratio (SIR) of carotid intraplaque hemorrhage (IPH) was associated with acute ischemic neurological events.

Methods A retrospective review was completed of consecutive patients that underwent neck MRAs using magnetization prepared rapid gradient echo (MP-RAGE) and T1-CUBE sequences between 2017 and 2020. Patients with MR-evidence of IPH were included. SIRs were measured by comparing the maximum IPH signal with the mean intramuscular signal from the adjacent SCM. Patients were stratified into ischemic or non-ischemic groups based on the presence of acute ipsilateral ischemic events (stroke, retinal artery occlusion). Logistic regression analysis was performed to determine if increasing IPH SIR was associated with an increased risk of ipsilateral ischemic events.

Results Of 85 included patients (85 arteries), 66 were male (77.6%). Mean age was 71.0 (SD $\pm$ 11.1). There were 70 arteries with IPH that were ipsilateral to an ischemic event, and 15 that belonged to a patient without an ischemic event. No association was found between increasing IPH SIR seen on MP-RAGE (OR: 0.82; 95% CI: 0.58-1.4; P = 0.43) or T1-CUBE sequences (OR: 0.85; 95% CI: 0.53-1.5; P = 0.56). **Conclusions** There was no association between the SIR of IPH and acute ischemia on either MP-RAGE or T1-CUBE sequences. Further investigation is required prior to widespread acceptance of SIR as a predictive imaging marker of symptomatic carotid plaque.

Disclosures A. Larson: None. W. Brinjikji: None. N. Kroll: None. L. Savastano: None. J. Huston: None. J. Benson: None.

E-050

Y-CONFIGURATION OF NEUROFORM ATLAS™ STENTS FOR TREATMENT OF WIDE-NECK INTRA-CRANIAL ANEURYSMS

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10.1136/neurintsurg-2021-SNIS.145

Introduction Endovascular management of wide-necked bifurcation aneurysms poses a therapeutic challenge as coiling often requires the use of multiple adjunctive stent constructs to achieve successful embolization without compromising parent vessel integrity. The Neuroform Atlas Stent System is a novel low-profile, intraluminal remodeling device. The study aims to investigate the safety and efficacy of the Y-configuration constructs with the ATLAS stent for aneurysm coil embolization.

Methods Patients undergoing Y-stent assisted coil embolization in the ATLAS IDE trial (Investigational Device Exemption) were identified. The primary efficacy end point was complete aneurysm occlusion (Raymond-Roy class 1) on 12-month angiography, in the absence of retreatment or parent artery stenosis (>50%) at the target location. The primary safety end point was any major stroke or ipsilateral stroke or neurological death within 12 months. Adjudication of the primary end points was performed by an independent Imaging Core Laboratory and the Clinical Events Committee.

Result A total of 60 patients were identified. The mean age was 59 and 28.3% were men. The median aneurysm size was 6.7mm with a median neck size of 4.3 mm. Aneurysm locations were as follows: basilar apex (56.7%), basilar trunk (3.3%), anterior communicating artery (20%), anterior cerebral artery (3.3%), internal cerebral artery (3.3%) and middle cerebral artery (13.3%). The composite primary efficacy end point of complete aneurysm occlusion (Raymond-Roy 1) without parent artery stenosis or aneurysm retreatment was achieved in 81.1% of patients. Overall, 1.7% (1/60) of patients experienced a primary safety end point of major ipsilateral stroke or neurological death.

Conclusions In the ATLAS IDE aneurysm cohort premarket approval study, the Neuroform Atlas stent with adjunctive Y-stent coiling met the primary end points and demonstrated high rates of long-term complete aneurysm occlusion at 12 months, with low rates of morbidity.

Disclosures A. Jadhav: None. S. Desai: None. R. Hanel: None. D. Frei: None. A. Khaldi: None. S. Hetts: None. O. Zaidat: None. B. Jankowitz: None.

E-051 DISPARITIES IN STROKE: ASSOCIATING SOCIOECONOMIC FACTORS WITH ISCHEMIC STROKE OUTCOME

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10.1136/neurintsurg-2021-SNIS.146

Introduction Socioeconomic status (SES) is a dynamic determinant factor that could predict the population's wellness in many aspects. However, there is little existing literature on how socioeconomic conditions influence ischemic stroke outcomes. This study aims to determine whether SES has any correlation with the functional outcome of ischemic stroke patients undergoing mechanical thrombectomy.

Methods Data was retrospectively collected using the Lysterly neurosurgery center's prospectively maintained thrombectomy database. Patient-level data collected include stroke risk factors such as age, race, gender, comorbidities, infarct core volume, history of stroke, and tobacco usage. We measured the outcome of ischemic stroke using the modified Rankin Score (mRS) at 90-day post-procedure. SES was defined by a combination of the zip code median income data we collected from the 2019 U.S. Census Bureau's American Community Survey (ACS) 5-year Projection and patients' health insurance coverage. We used several multivariate analyses to plot the correlation between the outcomes and SES.

Results Among 508 patients collected, 234 (46%) had preferred outcome (mRS ≤ 2) and 274 (54%) had poor outcome (mRS > 2). Baseline risk factors that presented a significant correlation with poor outcome included age ($p < 0.001$),

infarct core volume ($p = 0.007$), hypertension ($p = 0.006$), atrial fibrillation ($p = 0.001$), and existing history of stroke ($p = 0.012$). After adjusting for nuisance variables, unfavorable functional outcome ($p < 0.001$) was more likely to occur in patients with lower median income based on zip code. There was no association between health insurance and functional outcome ($p = 0.58$).

Conclusions Median income based on zip code is a SES indicator that is potentially associated with functional outcomes of ischemic stroke patients undergoing mechanical thrombectomy. Further studies addressing this relationship are needed.

Disclosures A. Nguyen: None. G. M. Cortez: None. M. Baretta: None. A. Aghaebrahim: None. E. Sauvageau: None. R. Hanel: None.

E-052 PREDICTORS OF PROLONGED CLOT ACCESS IN ACUTE ISCHEMIC STROKE: IMPLICATION OF VESSEL MORPHOLOGY

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10.1136/neurintsurg-2021-SNIS.147

Background Therapeutic workflow processes have been implemented and improved over the years to enable rapid response for acute ischemic stroke patients. Optimization of mechanical thrombectomy devices and techniques overcame some of the initial technical constraints; nonetheless, the implication of vessel tortuosity in procedure time and outcomes is still uncertain. We aimed to evaluate the predictors and the impact of difficult catheter access to the target occluded vessel.

Methods This is a retrospective, single-center study. Baseline characteristics were retrieved, and adjudication of the aortic arch and cervical vasculature tortuosity was performed. The primary outcome of interest was to evaluate the factors associated with an increased puncture to clot time. Secondary outcomes included first pass, successful recanalization, and good clinical outcome.

Results A total of 183 patients met inclusion criteria (mean age 72.0 ± 14.5 , 54.1% were women). Fifty-two patients (28.4%) had an aortic arch type 1, 58 (31.7%) type 2, and 73 (39.9%) type 3. Tortuosity was considered significant in 68 (37.1%), and 103 (57.9%) of brachiocephalic/common carotids and internal carotid arteries, respectively, and 38 (20.8%) patients had a bovine aortic arch. The mean time from puncture-to-clot access was 15.8 ± 8.7 min, and puncture-to-recanalization was 34.5 ± 18.5 . Age, hyperlipidemia, aortic arch type III, ICA tortuosity, BC/CCA tortuosity, and BAD score demonstrated a positive correlation ($p < 0.05$) with increased time from puncture-to-clot access. The likelihood of achieving FPE was inversely correlated to the presence of tortuosity in the ICA ($p = 0.02$). None of the investigated anatomical factors demonstrated a correlation with functional outcomes.

Conclusion Unfavorable vascular anatomy is associated with prolonged clot access in patients undergoing endovascular thrombectomy. The factors associated with prolonged access time included age, hyperlipidemia, type III aortic arch, and the presence of tortuosity at the cervical vasculature (BC/CCA and ICA). Non-invasive imaging evaluation may allow prompt selection of the best approach and culminate in procedure optimization.