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.

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

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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.

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

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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.