Background Female gender has been associated with worse clinical outcomes after ischemic stroke and account for the majority of stroke mortality. Females were more likely to receive intra-arterial therapy for ischemic stroke but had worse clinical outcomes then their male counterparts. Data on gender differences in endovascular thrombectomy remains limited.

Methods We analyzed gender-specific outcomes from the prospectively maintained Stroke Thrombectomy and Aneurysm Registry (STAR). We included adult patients undergoing endovascular thrombectomy for acute ischemic stroke from 32 centers in the US and globally between January 2015 and May 2021. Patient demographics, baseline deficits, admission variables, technical and clinical outcomes were reviewed and compared between the males and females. The primary outcome measure was modified Rankin Score (mRS) at 90 days dichotomized into good outcome (mRS 0–2) and poor outcome (mRS 3–6).

Results A total of 7477 patients were included in the study of which 50% were females. On average, female patients were older (70 vs. 67, p < 0.01), more likely to have comorbid atrial fibrillation (39% vs. 34%, p< 0.01), and more likely to have mRS ≥ 2 on presentation (11% vs. 8%, p<0.01). However, there was no difference in admission NIHSS, admission ASPECT scores, onset-to-groin time, and use of bridging thrombolysis between the two groups. On univariate analysis, females had significantly higher mRS score at 90-days compared to males (p<0.01) and demonstrated lower rates of functional independence (mRS 0–2, 34% vs. 40%, p<0.01). Using propensity score matching, when controlling for baseline covariates, there was no significant difference in 90-day mRS scores between males and females. Similarly, when baseline covariates were controlled for on univariate analysis, there was no significant gender differences in 90-mRS scores or procedural complications. Predictors of good functional outcome at 90 days were similar in males and females.

Conclusions Older females with higher baseline disability are more likely to undergo mechanical thrombectomy compared to males. Biological sex is not an independent predictor of thrombectomy outcomes in acute stroke when controlling for baseline and comorbid variables. Future studies will explore the determinants underlying differences in presentations and outcomes between

Disclosures L. Dimisko: 1; C; T32NR012715. V. Hertzberg: None. J. Grossberg: None. B. Howard: None. C. Cawley: None. P. Jabbour: None. F. Tong: None. P. Jabbour: 2; C; Medictronic, Micro-Vention, Cereus Endovascular, and Balt. I. Maier: None. S. Wolfe: None. A. Rai: None. R. Starke: 1; C; Medictronic, NREF, Joe Niekro Foundation, Brain Aneurysm Foundation, Bee Foundation, and by National Institute of Health (RO1NS111119–01A1) and(UL1TR002736, KL2TR002737) through the Miami Clinical and Translational. 2; C; xPenumbra, Abbott, Medictronic, InNeuroCo and Cereneovus. B. Gory: None. M. Psychogios: 1; C; Phenox, Stryker, and Siemens.. A. Shaban: None. A. Arthur: 1; C; Cerenovus, MicroVention, Penumbra, and Siemens. 2; C; Balt, Johnson and Johnson, Leica, Medictronic, MicroVention, Penumbra, Scientia, Siemens,
and Stryker. 4; C; Bendit, Cerebrotech, Endostream, Magneto, Marblehead, Neurogami, Serenity, Synchon, Triad Medical, and Vascular Simulations. J. Kim: None. S. Yoshimura: None. P. Kan: 2; C; Stryker and Cerenovus. R. De Leacy: None. I. Fragata: None. A. Polifka: None. J. Osborn: None. T. Dumont: None. R. Williamson: None. R. Crosa: None. M. Levitt: None. M. Moss: None. M. Park: None. W. Casagrande: None. S. Chowdhry: None. A. Spiotta: 1; C; Penumbra, Pulsar Vascular, MicroVention, and Stryker. 2; C; Penumbra, MicroVention, and PulsarVascular; A. Alawieh: None.

Background Prior data have suggested that the use of angled tip aspiration catheters may improve technical success in emergent large vessel occlusion thrombectomy. We evaluated the technical success and use of adjunctive technology in a single-institution retrospective study.

Methods The study cohort included patients treated by four neurointerventionalists with an aspiration first approach from August 2020 to February 2022 for ICA, M1, and M2 occlusions. Patients were allocated into two groups: 1. consecutive patients in whom angled tip catheters (Zoom catheters, Imperative Care, Campbell, California) was the first line thrombectomy treatment (n=60), and 2. randomly selected patients treated over the same time period with matching disease-related characteristics in whom more conventional flat tip catheters were used to attempt reperfusion (n=36, control group). The rate of excellent reperfusion (TICI 2C or better), stent retriever use, additional aspiration catheter utilization, access to final recanalization time, and symptomatic intracranial hemorrhage were evaluated. Values are presented as mean (standard deviation) and percentage (counts). The unpaired t-test and Fisher’s exact test were used to determine if there is a significant difference between the means and proportions of the two groups, respectively. P value <0.05 was considered to be statistically significant for both tests.

Results Baseline and disease-related characteristics were comparable between the groups. (Table 1). In the angled tip group, TICI 2C or better final reperfusion was achieved in 76.7% (46/60) of patients vs. 68.8% (22/32) in the control group, p= 0.460. The use of stent retriever was lower in the angled tip group vs. control group (3.3%, 2/60 vs. 15.6%, 5/32 respectively, p=0.047). A second catheter was used for aspiration in 10% (6/60) of cases in the angled tip group vs. 43.8% (14/32) of cases in the control group, p<0.001. Access to final recanalization time was quicker with angled tip catheters [24.2 (15.6) minutes vs. 32.7 (18.9) p=0.023]. The rate of symptomatic intracranial hemorrhage was similar in both groups; 1.6% (1/60) in the angled tip group vs. 3.1% (1/32) in the control group, p>0.999.

Conclusion The use of angled tip aspiration catheters for thrombectomy was associated with quicker time to final recanalization, lower use of stent retrievers, and lower use of additional catheter aspiration, with no increase in rates of symptomatic intracranial hemorrhage. This finding likely translates to a reduced thrombectomy procedure cost.

Disclosures J. Milburn: 2; C; Microvention, Imperative Care. 4; C; Optimize Neurovascular. P. Gulotta: None. V. Fennell: None. M. Poongkunran: None. S. Milburn: None. G. Vidal: None.

E-218 RISK FACTORS OF UNEXPLAINED EARLY NEUROLOGICAL DETERIORATION FOLLOWING ENDOVASCULAR TREATMENT IN PATIENT WITH LARGE VESSEL OCCLUSION: SYSTEMATIC REVIEW AND META-ANALYSIS

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Background Endovascular thrombectomy (EVT) is an effective treatment for acute ischemic stroke attributable large vessel occlusion. However early neurological deterioration (END) remains a serious clinical issue strongly associated with poor outcome. Despite several obvious causes of END that can lead to evidence based management of stroke, a particular END called unexplained EAD (UN-END) exists. Studies on UN-END after EVT are limited in the literature.

Methods In February 2022, a comprehensive literature search on risk factors associated UN-END was performed with the keywords including ‘Stroke’, ‘Thrombectomy’, ‘unexplained early neurological deterioration’, and ‘Risk Factors’. Their correlations with UN-END were evaluated using a separate random effects model that was fit for each risk factor to calculate pooled mean differences or odds ratios.