and Stryker. 4; C; Bendit, Cerebrotech, Endostream, Magneto, Marblehead, Neurogami, Serenity, Synchron, Triad Medical, and Vascular Simulations. J. Kim: None. S. Yoshimura: None. P. Kan: 2; C; Stryker and Cerinovus. R. De Leacy: None. I. Fragata: None. A. Polifka: None. J. Osburn: 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. Spiotto: 1; C; Penumbra, Pulsar Vascular, MicroVention, and Stryker. 2; C; Penumbra, MicroVention, and PulsarVascular. A. Alawieh: None.

E-217 ANGLED TIP REPERFUSION CATHETERS ARE ASSOCIATED WITH QUICKER ACCESS TO FINAL RECANALIZATION AND REDUCED UTILIZATION OF STENT RETRIEVERS AND SECONDARY CATHETER USAGE IN PATIENTS WITH EMERGENT LARGE VESSEL OCCLUSION, WHICH MAY REDUCE PROCEDURE COST

1J Milburn, 1P Gulotta, 1V Fennell, 1M Poongkunran, 1S Milburn, 1G Vidal. 1Radiology, Ochsner Medical System, New Orleans, LA; 2Neurosurgery, Ochsner Medical System, New Orleans, LA; 3Neurology, Ochsner Medical System, New Orleans, LA

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. consecutively 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=32, control group). The rate of excellent reperfusion (TICI 2C or better), stent retriever use, additional aspiration catheters utilization, access to final recanalization time, and symptomatic intracranial hemorrhage were evaluated. Data 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 angle 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

1M Abbasi, 1J Arturo Larco, 2C Perez Vega, 1T Huynh. 1Neurosurgery-Radiology, Mayo Clinic, Rochester, MN; 2Neurosurgery-Radiology, Mayo Clinic, Jacksonville, FL

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 END (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.