EVALUATION OF SAFETY AND EFFICACY OF TRANSRADIAL ACCESS FOR MECHANICAL THROMBECTOMY IN ACUTE ISCHEMIC STROKE – A SINGLE CENTER EXPERIENCE

1A Kuhn, 1J Singh, 2K de Macedo Rodrigues, 3F Massari, 4M Gounis, 4A Puri*

1Division of NeuroInterventional Radiology, Department of Radiology and New England Center for Stroke, University of Massachusetts, Worcester, MA; 2Greenboro Radiology, Greensboro, NC

Purpose To evaluate the safety and efficacy of transradial (distal radial (snuffbox) and radial artery) access for mechanical thrombectomy in patients presenting with acute ischemic strokes.

Material and Methods Retrospective review of our prospectively maintained Neuro IR database and identification of all patients who underwent mechanical thrombectomy for anterior and posterior circulation strokes between January 2019 and November 2020. Information on patient characteristics, site of occlusion, catheter set up, TICI recanalization status, and patient outcome at 3 months was collected.

Results A total of 256 anterior (n=239) and posterior (n=17) circulation strokes were identified between January 2019 and November 2020. Of those, 17 were performed via transradial access (6.6%), with 8 strokes located in the anterior and 9 in the posterior circulation. Eight patients were female. Mean age of anterior circulation stroke patients was 73.9 years (range 46-96 years) and 57.9 years (range 35-76 years) for posterior circulation stroke patients. Most occlusions were seen in the middle cerebral and basilar arteries. The NIHSS ranged between 5 to 24 for anterior circulation strokes (mean NIHSS 13) and 2 to 38 for posterior circulation strokes (mean NIHSS 12). Four patients received IV tPA. Ten procedures were performed via radial artery access and 7 procedures via distal radial artery (snuffbox) access. No conversion to femoral access was needed. Successful recanalization with TICI equal to or higher than 2B was achieved in 87.5% of anterior circulation and 100% of posterior circulation thrombectomies. TICI 2C and 3 was achieved in 75% of anterior circulation and 88.9% of posterior circulation thrombectomies. Single pass TICI 2c and 3 was seen in 7/17 cases (41.2%). The Infinity (Stryker) and Benchmark (Penumbra) catheters were mainly used as guide catheters. Intermediate catheters used included the 5F Sofia distal access catheter (Microvention), Large bore aspiration catheter (Cerenovus) and Catalyst 6 (Stryker). A stent retriever, either Trevo (Stryker) or Solitaire (Medtronic), was used in all cases. No access site complications were noted.

Conclusion Transradial access for mechanical thrombectomy in acute ischemic stroke is a primary access in tortuous vasculature. This vascular access is helpful in patients with posterior circulation strokes, on anticoagulation or with large body habitus.

Disclosures A. Kuhn: None. J. Singh: None. A. McGowan: None. M. Kirk: None. F. Massari: None. K. de Macedo Rodrigues: None. V. Nagurney: None. V. Anagnostakou: None. M. Gounis: 1; C; National Institutes of Health (NIH), the United States – Israel Binational Science Foundation, Anacorda, ApicBio, Axovant, Cerenovus, Cook Medical, Gentuity, Imperative Care, InNeuroCo, Magneto. 2; C; Cerenovus, Imperative Care, phenoxx, Medtronic Neurovascular, Route 92 Medical, Stryker Neurovascular. 4; C; Imperative Care, InNeuroCo and Neurogami. A. Puri: 1; C; NIH, Stryker Neurovascular, Medtronic, Cerenovus. 2; C; Microvention, QApel, Perfuze Medical, Arsenal Medical, Merit Medical, Stryker Neurovascular, Medtronic, Cerenovus. 4; C; InNeuroCo Inc, Galaxy therapeutics, Agile Medical, Perfuze medical and NTI.