prospectively and retrospectively collected for retrospective review. Procedural data such as number of passes performed in the procedure, time to TICI 2B/3, time from symptom onset to operation time and recanalization time were calculated and summarized. Safety and efficacy outcomes were summarized with regards to mRS at 90 days post procedure, as well as approximate 24 hour NIHSS and 24 hour ASPECTS Score.

Results In total, data on 229 patients was collected. Patients with M2 segment occlusions exhibited an average 24 hour NIHSS of 11.33, 24 hour ASPECTS of 7.3, 90 day mRS of 3.2, and needed a mean 2.33 passes (sd 1.72). Patients with M3 segment occlusions exhibited an average 24 hour NIHSS of 11.79, 24 hour ASPECTS of 9.0, 90 day mRS of 3.75, and needed a mean 1.86 passes (sd 1.49). There was no significant difference in outcomes or characteristics based on laterality of stroke. Table 2 outlines summary outcomes statistics and complications.

Conclusion Neurointervention in distal MCA strokes may be effective. Further prospective, randomized studies in larger cohorts are necessary to compare the efficacy and safety of this technique to other medical treatments of distal MCA strokes.

Disclosures N. Siddiqui: None. R. De Leacy: None.

E-160 DETAILED EVALUATION OF BRAIN CONE-BEAM CT IMAGING ARTIFACTS: A PROSPECTIVE STROKE SERIES

Background Cone-beam computed tomography (CB-CT) imaging of the head can be acquired in the angiography suite to support various neurovascular procedures. Sole reliance on this imaging, however, still lacks full diagnostic confidence for stroke assessment due to various imaging artifacts that persist, even with the latest CB-CT technology.

Purpose The purpose of this study was to perform a detailed evaluation of image artifacts present on our series of advanced head CB-CT scans and evaluate improvements using a new CB-CT protocol which implements a novel dual-axis ‘butterfly’ trajectory.

Methods We included 94 scans from 47 patients who received CB-CT imaging for ischemic or hemorrhagic assessment during a neurovascular procedure. Both a single-axis ‘circular’ and novel dual-axis ‘butterfly’ protocol were performed on each patient as an intra-patient control. Each brain scan was divided into six regions and scored out of 3 based on six imaging artifacts originating from various physics- and patient-based sources (Figure 1).

Results Overall, the dual-axis trajectory produces CB-CT images with significantly less image artifacts than the advanced circular scan (whole brain average artifact score, AS: 0.20 vs. 0.33). Greatest improvements were seen for bone beam hardening (AS: 0.13 vs. 0.78) and cone-beam artifacts (AS: 0.04 vs. 0.55).

Conclusion Recent developments in CB-CT imaging protocols have significantly improved image artifacts, which has improved diagnostic confidence for stroke and support a direct-to-angiography transfer approach for acute ischemic stroke patients.

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E-161 OPTIMAL PARAMETER FOR PREDICTING FINAL INFARCT VOLUME AND OUTCOME AFTER COMPLETE RECANALIZATION OF MEDIUM VESSEL STROKE

Background and Purpose We sought to assess the optimal parameter and best threshold on baseline computed-tomography-perfusion (CTP) to predict final-infarct-volume, infarct progression and clinical outcome after successful endovascular recanalization of acute ischemic stroke (AIS) with primary distal, medium vessel occlusions (DMVO).

Methods We performed a retrospective analysis of consecutive AIS patients who underwent an initial CTP, were successfully recanalized by thrombectomy for DMVO and underwent a follow-up MRI. We evaluated the correlation of baseline infarct and TMax volumes with final-infarct-volume and infarct progression between CTP and follow-up MRI, as well as 3 months good clinical outcome (modified Rankin Scale score of 0 to 2).

Results Between January 2018 and January 2021, 38 patients met inclusion criteria (76% [29/38] female, median age 75 [66–86] years). Median final-infarct-volume and infarct progression were respectively, 8.4 mL [IQR: 5.2–44.4] and 7.2
mL [IQR: 4.3–29.1]. Tmax>10sec volume had the strongest correlation with final-infarct-volume and infarct progression (respectively, r=0.831 and r=0.771, p<0.0001) as well as good clinical outcome (AUC=0.786). Higher baseline Tmax>10sec volumes increased the probability of higher final-infarct-volume and infarct progression (respectively, r²=0.690, coefficient=0.83 [0.64–1.00], p<0.0001 and r²=0.595, coefficient=0.77 [0.56–0.98], p<0.0001), whereas it decreased the probability of 3 months good clinical outcome (ODD ratio = -0.67 [-1.17 to -0.18], p=0.008).

ROC curves identified a Tmax>10sec volume <33mL as the optimal threshold to predict a low final-infarct-volume (AUC=0.802), low infarct progression (AUC=0.735) and good clinical outcome (AUC=0.786).

Conclusion Tmax>10sec volume on baseline CTP predicts final-infarct-volume and progression as well as clinical outcome after MT recanalization for AIS with DMVO.

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Background Mechanical thrombectomy (MT) of ischemic stroke was recommended as a clinical guideline in 2015, and the indication for time was expanded in 2018 based on two clinical studies. We aimed to determine how much MT increased before and after the indications expanded in actual clinical practice, and how much the prognosis was improved.

Methods We obtained data from medical records of hospitals from 2016 to 2020. Since June 2018, patients for MT were selected using RAPID, a perfusion imaging processing software, so data from 2018 were excluded to compare the same two-year period. From 2016 to 2017, patients who did not receive MT among patients who visited the hospital within 24 hours from the last normal time were classified as standard care (SC) groups. Among patients who underwent MT between 2019 and 2020, patients who visited the hospital between 6–24 hours from the last normal time were classified into the extended MT (EMT) group and those who visited within 6 hours were classified into the standard MT treatment (SMT) group. Good outcome was defined as modified rankin scale (mRS)<2, and a poor outcome was defined as mRS≥5.

Results From 2016 to 2017, 1,058 patients were hospitalized for ischemic stroke, of which 63 (6.0%) received MT, and 29 (2.7%) patients were classified into the SC group. Among 1,019 patients hospitalized for ischemic stroke between 2019 and 2020, 85 (8.3%) received MT, and 24 patients were in the EMT group. Among the SC group, only 3 patients (10.3%) had a good prognosis at 3 months and 18 patients (62.1%) had a bad prognosis. However, in the EMT group, 10 patients (41.7%) had a good prognosis at 3 months, and only 4 patients (16.7%) had a poor prognosis. Of the 61 patients in the SMT group, 28 (45.9%) had a good prognosis at 3 months and 16 (26.2%) had a bad prognosis. There was no statistical difference in prognosis between the EMT and SMT groups. However, compared to the EMT group, the SC group had a 6.1 times higher risk of poor prognosis (p=0.050).

Conclusions The number of patients with ischemic stroke who can receive MT has increased by extending the indications for MT time using advanced imaging software. In actual clinical practice, it was confirmed that patients treated based on the extended time indication also had a good prognosis.

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IMPROVING THE PROGNOSIS OF PATIENTS WITH ACUTE ISCHEMIC STROKE TREATED IN THE LATE TIME WINDOW AFTER THE INTRODUCTION OF ADVANCED IMAGING: BENEFITS FROM THROMBECTOMY IN THE EXTENDED TIME WINDOW

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Introduction Flow-reversal through transfemoral balloon-guide catheter (BGC) for carotid artery stenting (CAS) was described among the first embolic protection methods. However, the technique was never adopted due to lack of proof about flow-reversal and emboli count, and technical difficulties associated with older BGCs, such as stiffness and incompatibility with other catheters. We demonstrate flow-reversal through a Walrus BGC for transfemoral CAS, using a robotic transcranial doppler (rTCD) with the purpose of proof of concept.