in early and late windows. In patients presenting in the early window, age (aOR=0.905, $p=0.0002$; CI=0.858-0.954) and baseline NIHSS (aOR=0.909, $p=0.0423$; CI=0.829-0.997) were independently associated with 90-day outcome. In patients presenting in the late window, only age (aOR=0.934, $p=0.0069$; CI=0.888-0.981) was independently associated with good outcome.

Conclusion More than one in four patients presenting with ASPECTS<6 may achieve functional independence at 90-day following MT. Patient age remained the main predictors of 90-day outcome in patients with low ASPECTS in both late and early window.

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0-019 INCREASING INNER DIAMETER LEADS TO FASTER THROMBECTOMY WITH ASPIRATION IN ACUTE ISCHEMIC STROKE

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Background Increasing the distal ID of aspiration catheters has been associated with higher quality and faster thrombectomies, due to a presumed higher rate of complete clot ingestion. We aimed to evaluate the recanalization efficacy of newer generation, larger bore aspiration catheters versus smaller distal ID aspiration catheters in a real world data set.

Methods We performed a multicenter retrospective analysis of consecutive acute ischemic stroke patients with M1 occlusion treated within 24 hours from the time of last known well. Patients were divided into two groups based on the distal inner diameter of the aspiration catheter used for reperfusion: 0.070" or greater (large) and 0.068" or smaller sized catheters (small). The primary outcome was the rate of TICI 2C or better reperfusion. Secondary outcomes included the rate of TICI 2B or better reperfusion, rate of recanalization on first pass, and access to successful reperfusion time. All data was self-adjudicated. No outside funding was provided for this analysis.

Results Total of 774 patients with acute M1 occlusion who underwent thrombectomy with an aspiration catheter. Larger bore catheters (with a distal ID of 0.070" to 0.074") were used in 421 patients, while 353 patients were treated with small aspiration catheters (distal ID of 0.060 to 0.068"). There was no significant difference in the rate of TICI 2B or better (94.5 vs 94.3%, $p=0.909$), TICI 2C or better (62.1% vs

59.5%, $p=0.451$), and TICI 3 recanalization (47.6% vs 51.3%, $p=0.311$) between groups. However, there the larger catheter group had a significantly improved rate of first pass TICI 2C or better (46.8% vs 38.2%, $p=0.017$), and access time to final recanalization (20.1 minutes vs 23.1 minutes, $p<0.001$). Rate of hemorrhage on follow up imaging was significantly higher in the large catheter group (15.3% vs 10.1%, $p=0.038$). The baseline mRS score, admission NIHSS score, and the rate of intravenous thrombolytic therapy were not different between the cohorts. The last known normal to access time was significantly higher in the small catheter group (186 minutes vs 288 minutes, $p<0.001$). General anesthesia was used more frequently in the small catheter group (88.1% vs 19.1%, $p=0.006$).

Conclusion This multicenter, consecutive real-world experience demonstrates that M1 thrombectomy with a larger distal ID catheter is associated with faster time to recanalization and higher rate of TICI 2C or better recanalization on first pass, but also with a higher rate of hemorrhage on follow up imaging.

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0-020 NOVEL CONE BEAM CT TECHNOLOGY IMPROVES IMAGE QUALITY FOR STROKE ASSESSMENT: A PROSPECTIVE SERIES

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Background & Purpose Time is essential for treatment of acute ischemic stroke (AIS) for patients with large-vessel occlusion (LVO). It is now well established that decreasing the time between stroke-onset to groin-puncture significantly improves functional outcomes for these patients.¹ One potential method of shortening this time is to by-pass the CT department and bring patients directly to the angi suite for baseline imaging. However, in order for this to gain mainstream acceptance, the diagnostic quality of cone beam CT (CB-CT) performed in the angi suite needs to be able to exclude haemorrhages, define the stroke core and ideally demonstrate brain perfusion and collaterals for select patients. We plan to present the recent results of 4 ongoing studies aimed to assess the imaging quality of the latest generation CB-CT scans and technology: 1. Non-contrast circular CB-CT scans; 2. Non-contrast dual-axis CB-CT scans; 3. Contrast-enhanced CB-CT Perfusion

scans; and 4. Motion compensation post-processing algorithm technology.

Methods Patients with AIS who received endovascular mechanical thrombectomy were prospectively included in this monocentric study (n=105).

Study 1: Image quality of non-contrast circular CB-CT scans were analyzed using 2 quantitative and 6 qualitative measures and were compared to CT. Study 2: 6 types of image artifacts were compared between circular and dual-axis CB-CT scans. Study 3: Clot detection, ischemic core and collateral blood supply was assessed on CB-CT Perfusion imaging and compared to baseline CT and DSA imaging. Study 4: Motion artifacts were assessed on all scans before and after post-processed using a motion artifact correction algorithm.

Results Study 1: Newer non-contrast CB-CT circular scans had higher mean contrast-to-noise ratio and lower mean image noise compared to older generation protocols. The largest image quality improvements included grey/white matter differentiation (59% improvement), and reduction of image noise and artefacts (63% & 50% improvement, respectively). Study 2: Dual-axis CB-CT scans had significantly improved beam hardening and cone-beam artifacts compared to circular scans. Study 3: CB-CT stroke perfusion imaging software accurately demonstrates vessel patency, ischemic core, and collateral blood supply. Study 4: 51% of all AIS CB-CT scans had motion artifacts, of which 91% improved after post-processing with our motion correction algorithm. Overall 76% of the scans were sufficient for clinical decision making prior to correction, which improved to 93% after post processing with our algorithm.

Conclusions The latest generation of CB-CT scans & technology allow for exclusion of haemorrhages, stroke core definition and demonstration of brain perfusion and collaterals. These improvements suggest that CB-CT is acceptable for emergency stroke imaging assessment before mechanical thrombectomy, which may reduce door-to-groin puncture times and improve patient outcomes.

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O-021

MIDDLE MENINGEAL ARTERY EMBOLIZATION FOR CHRONIC SUBDURAL HEMATOMA: A NATIONAL DATABASE STUDY OF 292 PATIENTS IN THE UNITED STATES

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Background Middle meningeal artery embolization (MMAE) has been used as an effective minimally invasive treatment for chronic subdural hematomas (cSDH). The demographics and clinical outcomes after MMAE treatment for cSDH have not yet been studied using the large scale of a national database.

Abstract O-021 Figure 1

Methods We queried all MMAE cases up to March 19th, 2021 from the TriNetX Analytics Network. We identified patients >18 years old who underwent MMAE for the treatment of cSDH. Patient demographics, baseline characteristics, comorbidities, and clinical outcomes were evaluated within 1-year post-MMAE. 1-year mortality and recurrence analyses were performed after propensity score matching to control for baseline characteristics and comorbidities.

Results A total 292 patients were included (mean age: 70.6 ± 13.9, 27.7% female, 71.6% White, 13.0% Black/African American, and 15.4% other). Essential hypertension (71.9%), heart disease (61.6%), type 2 diabetes mellitus (27.4%), nicotine dependence (26.0%), chronic kidney disease (19.52%), and overweight/obesity (18.2%) were among the most prevalent comorbidities. At presentation, 21.6% and 42.7% were on antiplatelet and anticoagulation therapy, respectively. Outcomes within a one-year follow-up were 6.2% (or 2.74-5.82% when propensity-matched) for mortality (18 patients), 0.34-3.4% for repeat MMAE (1-10 patients), 6.5% for craniotomy/craniectomy after MMAE (19 patients), 5.1% for burr hole procedures (15 patients), and 0.35-3.5% for low vision/blindness (1-10 patients).

Conclusion MMAE is a safe and effective minimally invasive procedure for the treatment of cSDH. This represents the first analysis of patients undergoing MMAE for cSDH using a national database.

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O-022

WHITE MATTER SURVIVAL WITHIN AND AROUND THE HEMATOMA: QUANTIFICATION BY MRI IN PATIENTS WITH INTRACEREBRAL HEMORRHAGE

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Introduction White matter (WM) injury and survival after intracerebral hemorrhage (ICH) has received insufficient attention. WM disruption, surrounding the hematoma, has been