

24.5%), and Zoom 0.071 (n=9, 18.4%). Successful recanalization was achieved in 49 (98%) patients. Median arterial puncture to final recanalization time was 24 minutes (IQR 14-37). Median number of passes was 1.5 [IQR 1-2]. First pass effect was achieved in 23 (50%) patients. Discharge NIHSS was available for 36/50 patients of which median discharge NIHSS was 3 (IQR 0.5-6.5). Only 1 (2%) patient experienced a symptomatic ICH.

Conclusion Our findings suggest that aspiration thrombectomy with asymmetric clot engagement is safe and highly effective in patients with stroke from DVO.

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E-049 COMPLICATIONS OF MIDDLE MENINGEAL ARTERY EMBOLIZATION – A SYSTEMATIC REVIEW

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Introduction Middle meningeal artery (MMA) embolization is becoming an increasingly established treatment option for chronic subdural hematoma (cSDH). Although several systematic reviews have considered outcomes and/or overall incidence of complications following MMA embolization, no prior review has conducted a comprehensive assessment of overall and specific complications following MMA embolization. The aim of the present systematic review was to establish estimates of incidence for overall and specific complications following MMA embolization.

Methods PubMed, Embase and Cochrane were searched for studies reporting complications following MMA embolization in November 2022. Studies with >5 adult patients undergoing MMA embolization for cSDH were included. Outcomes were categorized according to complication type, including neurological complications, cardiovascular complications, infection, and miscellaneous complications. PRISMA guidelines were followed.

Results A total 389 abstracts were screened of which 128 full texts were reviewed. A final 49 studies containing 3009 patients undergoing MMA embolization were included. No complications or mortalities were reported in 28 studies representing 1352 patients. Across the 49 studies, the incidence of overall complications was 3.79% (114/3009 patients).

Neurological complications were reported in 40 patients (1.33%) including: new onset seizures in 13 patients (0.43%); unspecified stroke in 9 patients (0.30%); aphasia in 4 patients (0.13%); MMA rupture in 4 patients (0.13%); visual changes in 3 patients (0.10%); facial droop in two patients (0.07%); lethargy in one patient (0.03%); imbalance in one patient (0.03%); numbness in one patient (0.03%); headaches in one patient (0.03%); and hemiplegia in one patient (0.03%). Cardiovascular complications were reported in 8 patients (0.27%) including: deep venous thrombosis or pulmonary embolus in two patients (0.07%); fistula in two patients (0.07%); access site hematoma in one patient (0.03%); aortic dissection in one

patient (0.03%); femoral artery pseudoaneurysm in one patient (0.03%); and external carotid artery spasm in one patient (0.03%). Infection was reported in 11 patients (0.37%) including: urinary tract infection in three patients (0.10%); pneumonia in three patients (0.10%); and empyema in three patients (0.10%). Other complications reported included: acute kidney injury in three patients (0.10%); catheter herniation in two patients (0.07%); and retained microcatheter in one patient (0.03%). No periprocedural mortalities were reported.

Conclusion The published literature suggests that MMA embolization is a generally well-tolerated procedure, but with a low risk of significant complications, including, but not limited to stroke, seizures, visual obscurations, and facial palsy. Further studies and sub-analyses are needed to fully characterize the incidence of such complications.

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E-050 POST THROMBECTOMY CEREBRAL BLOOD FLOW (CBF) STUDY USING FLAT PANEL CONE BEAM COMPUTED TOMOGRAPHY: A NEW APPROACH TO UNDERSTAND INTERACTION BETWEEN RECANALIZATION, REPERFUSION AND POST MT BP LEVELS: STUDY CONCEPT AND DESIGN

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Introduction The optimal guidelines for post-mechanical thrombectomy (MT) blood pressure (BP) management are not well established. While observational studies have shown benefits of lowering BP in successfully recanalized patients to reduce the risk of reperfusion injury, there are no randomized trials to support this hypothesis. Recanalization may not always result in reperfusion and non infarcted area of brain in occluded arteries' territory can remain hypo-perfused (no-reflow or stunned brain phenomena). Acute lowering of BP in this subgroup of successfully recanalized patients can potentially be harmful. Therefore, knowledge of the reperfusion status in the immediate post-MT period can potentially help determine the optimal BP target and provide prognostic information.

Methods For each eligible study patient with LVO, a CBF study using Siemens ARTIS icono biplane will be performed immediately post MT while patient is on angiography table. We will retrospectively generate CTPpost maps (CBV, CBF, TTP and Tmax). Hypoperfusion will be defined as volume of Tmax delay ≥ 6 seconds in the affected vascular territory. Hyperperfusion will be defined as visual increase in CBF and CBV with reduced Tmax compared with the unaffected hemisphere. A retrospective correlative analyses of reperfusion status, recanalization grades, post thrombectomy BP levels with various outcome measures will be performed. We hypothesize that the successfully recanalized (based on angiography) and reperfused (based on cerebral blood flow analysis) patients would do better with lower levels of BP, whereas the patients

with successful recanalization with incomplete reperfusion or unsuccessful recanalization would do better with higher BP levels.

Technical Parameters of Perfusion Imaging and Injector Setup

Imaging is done on a Siemens ARTIS icono biplane (Siemens Healthineers, Forchhiem, Germany) will consist of a 60 second multi-sweep protocol. The protocol includes 10 rotations of the c-arm which catch the mask, rise, and fall of the contrast injection into the patient. Contrast is injected radially through a 18 or 20 gauge IV at the start of the first rotation. Contrast injector is layered and filled with 80 ml of 100% saline followed by 70 ml of 100% contrast. The contents of the injector are not combined and remain layered so that the contrast is injected first followed by a saline chaser. Injection parameters are as follows: Contrast injection at 5 ml/sec to a total of 120 ml volume of contrast/saline layer at 300 PSI lax with a rise rate of 0.1 sec and no x-ray delay.

Results 12 patients with LVO had the post MT CBF study using Siemens Icono perfusion protocol. We are in process of getting these images processed and generating CTP post maps (CBF, CBV, MTT and Tmax). The planned sample size is 100 patients.

Conclusion Assessment of reperfusion status in immediate post MT period can potentially help understand the optimal BP target. Based on our single center study, we plan to conduct a prospective multicenter study to evaluate this hypothesis further.

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Introduction/Purpose The Alberta Stroke Program Early CT Score (ASPECTS) has been widely used to identify patients eligible for mechanical thrombectomy (MT) in ischemic stroke due to large vessel occlusion. Recent randomized controlled trials showed that patients with low baseline ASPECTS can still achieve good long-term functional following MT compared to conservative management. In this study, we investigate which brain regions are more affected in stroke patients with low ASPECTS (2-5).

Materials and Methods This retrospective cohort study utilized data from our stroke database at the Medical University of South Carolina (MUSC) from 2013 to 2023. Patients with low ASPECTS (2 - 5) who underwent MT of the internal carotid artery (ICA) or middle cerebral artery (M1) occlusion were included in the study. We assessed the status of individual ASPECTS regions. We categorized the ASPECTS regions into three groups based on the least to the most affected regions. Group 1 included M6, caudate, M4, and M3. Group 2 included m5, m1, and internal capsule. Group 3 represented the most affected regions, including insular ribbon, M2, and lentiform.

Results 42 patients were included. Median age of 67.78 years and a median admission NIHSS score of 19.50. The analysis revealed that the M6 and Caudate regions were the least affected areas (27.66% and 40.43%, respectively), whereas the M2 and insular ribbon regions were the most affected areas (78.72% and 76.6%, respectively). Comparing the three categories showed that group 1 was significantly less affected compared with the other two groups (p-value = 0.04). Regression analysis indicated that caudate infarction was significantly associated with intracranial hemorrhage (OR 8.30; 95% CI 2.06 - 43.6; p-value 0.005).

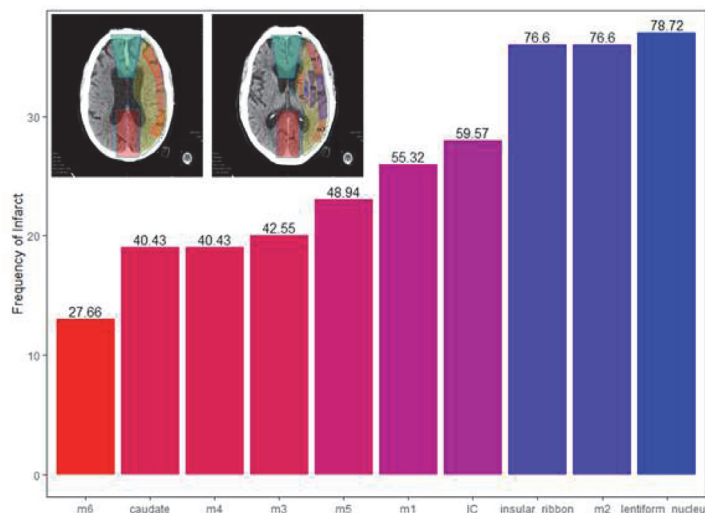
Conclusion Brain regions are differentially affected in patients with low ASPECTS, but whether this variability contributes to long-term outcomes and should guide treatment decisions requires further investigation with a larger sample size.

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E-051 REGIONAL DIFFERENCES IN INFARCTION AMONG STROKE PATIENTS WITH LOW ASPECTS: A RETROSPECTIVE COHORT STUDY

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Abstract E-051 Figure 1