

## E-148 ABSTRACT WITHDRAWN

## E-149 INTRACRANIAL TRIPLE A – THE CHALLENGES OF A1 ACA ANEURYSMS

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**Introduction/Purpose** Intracranial aneurysms arising from the A1 segment of the anterior cerebral artery (ACA) are a subset of aneurysms that is difficult to treat. These aneurysms typically arise at an angle in horizontal or vertical orientation from the parent vessel and challenge microcatheter navigation into and stable catheter position within the aneurysm neck. Additionally, these aneurysms are mostly very small which further challenges endovascular treatment.

**Materials and Methods** We retrospectively reviewed our prospectively maintained neurointerventional database and identified all patients with ACA aneurysms between January 2017 and January 2023. We then further selected those patients in whom the aneurysm arose from the A1 segment of the ACA. Patient characteristics, procedural data and follow-up information was collected.

**Results** A total of 10 patients (7 females) were identified. Patient age ranged from 36 to 78 years (mean 66 years). One aneurysm was ruptured. None of the unruptured aneurysms was previously treated. Mean aneurysm diameter (largest dimension) was 3.1 mm. Mean aneurysm neck size was 1.9 mm. Aneurysm volume ranged from 4.4 mm<sup>3</sup> to 18.8 mm<sup>3</sup>. All aneurysms were treated with single coil embolization. No assisting devices were used. In all but one case a Headway Duo microcatheter (Microvention) was used. A S-shaped Excelsior SL-10 microcatheter (Stryker) was used in one case. Mean packing density was 21.1% (range 8.1 - 31.7%). No intra- or peri-procedural complications were seen. Most interventions were performed via transfemoral access. One patient died prior to follow-up (unrelated cause of death), 1 patient had significant progression of dementia and was unable to return for follow up and another patient was lost to follow up. Currently, six-month follow-up angiogram was available for 5 patients and showed complete occlusion and near complete occlusion in 2 cases each. One patient was found to have asymptomatic distal migration of the coil into a cortical ACA branch. One year follow up is still anticipated for most

patients but 1 patient already showed stable complete occlusion and another patient showed progression from near complete to complete occlusion.

**Conclusion** A1 ACA aneurysms are a challenging subset of intracranial aneurysms that can be treated successfully with coil embolization in selected patients. Microcatheter steam shaping may be necessary to tailor the catheter to the vessel anatomy.

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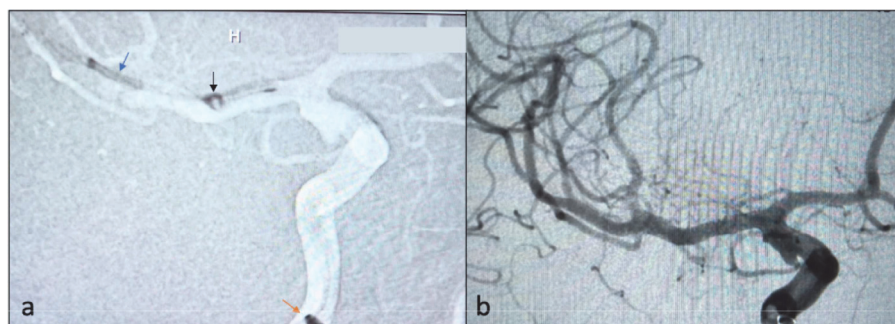
## E-150 MECHANICAL THROMBECTOMY IN DISTAL MIDDLE CEREBRAL ARTERY OCCLUSIONS USING A NOVEL BLIND EXCHANGE MINI-PINNING TECHNIQUE: EXPERIENCE IN 7 CONSECUTIVE CASES

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**Introduction/Purpose** Blind exchange with mini-pinning (BEMP) is a novel technique useful for achieving improved reperfusion rates in distal mechanical thrombectomy for acute ischemic stroke. It allows the combined use of a stentriever with a 035 distal thrombectomy catheter, whereby deployment of a stentriever through a microcatheter and 071 thrombectomy catheter is followed by stripping of the 021 microcatheter with subsequent blind navigation of a longer 035 aspiration catheter over the stentriever wire to engage the thrombus. We report the unique use of the BEMP technique for the management of seven cases with acute middle cerebral artery occlusions.

**Materials and Methods** All patients undergoing BEMP for acute ischemic stroke between January and March 2023 were retrospectively identified from a prospectively maintained IRB-



**Abstract E-150 Figure 1** (A) Deployment and blind mini-pinning navigation of 035 aspiration catheter (blue) through 071 (black) and 088 thrombectomy catheter (orange) into the M2 segment with follow-up angiography (B) demonstrating TIC13 recanalization

approved institutional database of the senior authors and analyzed.

**Results** Seven patients met inclusion criteria: average age 72 ±7.36 years-old (range 35-94 years), 43% (n=3) women. Past medical history included 5 (71%) patients with hypertension or atherosclerotic disease and 2 (29%) with diabetes mellitus. Six (86%) were taking an anticoagulant or antiplatelet medication, and 2 (29%) received tPA. Average NIHSS was 16±6. Location of occlusion included 6 (57%) in M2 branches and 1 (14%) M1 branch. The Zoom35 aspiration catheter was utilized in 6 (86%) cases of Zoom 35 and the Zoom55 in one case. Stent retrievers utilized included Trevo (4mm, 3mm, Stryker Neurovascular), Tigertriever (RapidMedical) and Solitaire (3mm, Medtronic Neurovascular). Fluoroscopy time averaged 24±4.9 minutes, with an average of 1.7±0.5 passes, and recanalization with mTICI≥2b was achieved in all cases (100%). The BEMP technique was successful in all (100%) cases, with a single case of M3-M4 vasospasm noted, no other complications. Average mRS 2-weeks procedure was 3.1 ±0.8, with 7.4±2.8 days for length of stay.

**Conclusion** Blind mini-pinning allows for combined use of distal stentriever with a 035 thrombectomy catheter, affording a larger ID than traditional microcatheter engagement of the thrombus with enhanced stability for removal, and improved reperfusion rates in distal occlusions. This technique may be efficacious for the treatment of distal occlusions and further studies are needed to compare outcomes in distal occlusions.

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#### E-151 EFFICACY OF AN INCIDENTAL ANEURYSM ALERT SYSTEM (IAAS) AND THE ASSOCIATED DISPARITIES OF INCIDENTALLY DETECTED INTRACRANIAL ANEURYSMS

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**Introduction and Purpose** Incidentally discovered cerebral aneurysms are increasingly common as patients are more frequently imaged. To aid in their management, we developed an aneurysm alert system. Here we describe the effectiveness and outcomes of our Incidental Aneurysm Alert System (IAAS) and the racial and ethnic disparities on discovery.

**Materials and Methods** IAAS received MRA and CTA reports from our Radiology department. Reports were parsed using natural language processing to identify 'aneurysm,' automatically generating alerts for the interventional neuroradiologists. Background demographics, referral patterns, risk factors, and management were then assessed. Between-group comparison for continuous variables was performed using ANOVA, and

categorical variables using the chi-squared test. Multivariable logistic regression was also performed in SPSS. Significance was defined as  $p \leq 0.05$ .

**Results** From March 2020 to March 2021, 237 consecutive reports were reviewed. After excluding duplicates and non-vascular lesions, there were 183 unique cases resulting in an 83% aneurysm detection accuracy rate. Median age was 65 and 65% were female. Most frequent races were 48% non-Hispanic White, 27% Hispanic, 10% Asian, 7% Black, and 10% unknown and other.

Fifty-five percent were detected in an emergency setting, while 41% were outpatients. The most common referring outpatient specialty was neurology (37%), followed by primary care (32%) and other subspecialties (27%). Of the outpatient referrals, only 16% originated from community practice. The most frequent indication for imaging was acute stroke or focal deficits (54%). Nearly 50% of detected aneurysms resulted in a consultation with a neuro-interventionalist. Of those referred, 58% underwent diagnostic or therapeutic angiography. Sixty-four percent (n=37) of those who underwent cerebral angiography were intervened upon immediately or within two years of discovery. Five percent were ruptured on discovery. Aneurysms were most frequently treated with primary coiling (35%), flow diversion (30%), and clipping (16%).

Asians and Hispanics were significantly younger (mean age 60 and 61 years, respectively) than Non-Hispanic Whites (mean age 69 years,  $p=0.01$ ). Non-Hispanic Whites were significantly more likely to present in the outpatient setting with more focal complaints, such as acute stroke or headache, than Hispanic patients with non-focal complaints ( $p=0.03$ ). Asian and Hispanic patients also presented with larger aneurysms and significantly higher PHASES scores on presentation of 6.6 (1.7-2.4% 5-year rupture risk) and 5.2 (1.3-1.7% 5-year rupture risk), respectively ( $p=0.05$ ). There were no significant differences in aneurysm location or risk factors. Logistic regression analysis showed that higher PHASES scores significantly predicted aneurysm treatment (OR 1.61, 1.14-2.27 95% CI,  $p=0.007$ ).

**Conclusions** IAAS is an effective alerting system and can improve the management of incidentally discovered cerebral aneurysms. The natural history of cerebral aneurysms may differ for Hispanic and

Asian Americans, suggesting a potentially higher risk at presentation. Future research is needed to better understand these disparities' causes and reduce their risks.

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#### E-152 CONE-BEAM CT ANGIOGRAM ACQUISITION IN THE ANGIOGRAPHY SUITE FOR LVO DETECTION IN ACUTE ISCHEMIC STROKE

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**Introduction/Purpose** Triage of stroke patient involves cross-sectional non-contrast head imaging and vascular imaging,