outcomes in a center that receives patients from rural and underserved areas. We retrospectively reviewed the electronic medical record of 38 patients admitted to Sanford Health Cerebrovascular Service in Fargo, ND between March 2015 and May 2017 who underwent endovascular intervention for acute ischemic stroke secondary to a small caliber vessel occlusion. An average change in National Institutes of Health Stroke Scale (NIHSS) score of 4.94 was observed after intervention with mechanical thrombectomy with 26.31% of patients having a decrease in NIHSS of 10 or more and 36.84% of patients having a reduction of 6 or more. Successful recanalization was achieved in 94.74% of cases. Given the high rates of revascularization and significant reductions in NIHSS scores, mechanical thrombectomy may be reasonably extended to patients with occlusion of smaller, more distal vessels.

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Abstract E-136 Table 1 Study Demographics and Initial Results

<table>
<thead>
<tr>
<th>Gender</th>
<th>39 Female, 44 Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Avg 68 years old, range 25 - 97</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>52% White, 15% Hispanic, 3% Black, 20% Asian, 10% Unknown</td>
</tr>
<tr>
<td>NIHSS</td>
<td>Average 16</td>
</tr>
<tr>
<td>tPA Administration</td>
<td>36 Yes, 47 No</td>
</tr>
<tr>
<td>Length of Stay</td>
<td>7.4 days</td>
</tr>
<tr>
<td>Average SBP</td>
<td>128.4 mmHg, range 96.9 - 152.2 mmHg</td>
</tr>
<tr>
<td>Average DBP</td>
<td>65.9 mmHg, range 47.1 - 83.7 mmHg</td>
</tr>
<tr>
<td>Disposition</td>
<td>22 Home, 9 ARU, 31 SNF, 3 Hospice, 18 Deceased</td>
</tr>
</tbody>
</table>

**E-136** BLOOD PRESSURE MANAGEMENT 24 HOURS AFTER MECHANICAL THROMBECTOMY FOR ACUTE ISCHEMIC STROKE

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**Objective/Purpose** Mechanical thrombectomy (MT) has become the standard of care for patients with acute ischemic stroke with large vessel occlusion; however, there are still no well-established guidelines for blood pressure (BP) management after this groundbreaking procedure. The purpose of this study was to evaluate whether variance in BP management in the first 24 hours after MT has a measurable effect on patient outcome.

**Methods** We conducted a retrospective cohort study in consecutive ischemic stroke patients who underwent MT at our comprehensive stroke center between January 2013 and August 2017. Eligible patients were included for analysis of maximum, minimum, average systolic and diastolic BP on arrival and in the first 24 hours after the MT. For the functional outcome measures, discharge and after 90 days modified Rankin scale (mRS) were utilized. The effect of BP management on outcome was analyzed using multivariable regression analysis.

**Results** Among the 216 consecutive patients admitted after MT for acute ischemic stroke in the defined time, 83 (38.4%) met all inclusion criteria, and 41 (49%) had a good functional outcome with mRS of 0-3 at 90 days. Average systolic BP was 128.4 mmHg (range 96.9 - 152.2 mmHg) in the first 24 hours after MT. Of all measures investigated, increasing age of the patient ($R^2 = 0.41, p = 0.0001$), elevated systolic BP on arrival ($R^2 = 0.34, p = 0.0015$), and maximum systolic BP in the first 24 hours ($R^2 = 0.30, p = 0.005$) were associated with poor functional outcomes at discharge and 90 days. No significant difference in functional status was observed when evaluating the average BP maintained during the first 24 hours after MT ($R^2 = 0.15, p = 0.16$) or the ethnicity of the patient ($R^2 = 0.08, p = 0.46$).

**Conclusion** Increasing age, elevated systolic BP on arrival, and maximum systolic BP in the first 24 hours after MT were associated with worsened outcomes in our single-center retrospective study. Prospective, multicenter and randomized control trials are necessary to identify and establish future BP guidelines for MT.

**Disclosures** M. Farag: None. W. Yu: None. S. Suzuki: None.

**E-137** MICROCATHERET INJECTIONS IN ACUTE STROKE THROMBECTOMY

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**Introduction** Timing of recanalization and safety of endovascular thrombectomy are important factors determining the final clinical outcome of acute stroke interventions. Appropriate position of the aspirating catheter and placement of stent retrievers are of paramount importance to achieve both these goals. Microcatheter injection (MCI) is a simple yet effective method to confirm appropriate position of the microcatheters and also to evaluate the collateral circulations. In this study, we evaluated the MCI applications in our practice and how it affected the procedural management of our patients with acute stroke.

**Methods** In this retrospective study, 200 patients with middle cerebral artery occlusion who underwent acute intervention from March 2015 to August 2018 were enrolled. All the charts, peri-operative images including CT scans and MRIs, and endovascular interventions were reviewed.

**Results** Out of 200 enrolled patients, 122 were female. The average age was 68.8 years and 141 had a baseline modified Rankin score (mRS) of less than 3. MCI was used in 72 patients leading to microcatheter repositioning in 15 instances. Average NIHSS at 90 days was 24.6 while 57 patients had a mRS less than 3 at 3-month follow up. Procedural time was significantly shorter in the non-MCI group (48.2 min vs. 76.5, $p<0.01$), non-MCI was associated with significantly better TICI 2B/3 reperfusion (96.6% vs. 88.7%, $p<0.05$), and non-MCI patients had a significantly better 3-month clinical outcome of mRS $\leq 3$ (46.5% vs. 46.7%, $p<0.05$). Of note, MCI did not increase risk of hemorrhagic conversion or post-procedural subarachnoid hemorrhage.

**Conclusion** Though MCI theoretically helps with appropriate microcatheter positioning across an occlusion during thrombectomy, it was used as a technique in only in 36.0% of the cases in our cohort. Our data supports that performing MCI in stroke thrombectomy is significantly associated with longer procedural times, lower rates of TICI 2B/3 reperfusion, and worse 90 day outcomes (mRS $>3$) compared to not
performing MCI. Further prospective studies are warranted to evaluate if the MCI technique affects reperfusion and functional outcomes in endovascular patients.

Disclosures M. Nouri: None. J. Lee: None. J. Mocco: None. P. Singh: 6; C; Penumbra.

E-139 THE CHARACTERISTICS OF ELDERLY PATIENTS OVER 80 YEARS OF AGE WHO UNDERWENT MECHANICAL THROMBECTOMY USING STENT-RETRIEVERS DUE TO ACUTE CEREBRAL INFARCTION

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Introduction Recently, the average life expectancy of people has increased, and the number of cerebral infarctions in elderly patients over 80 years of age is also increasing. There are increasing cases of mechanical thrombectomy using stent-retriever in elderly patient, but the characteristics and differences of the patient population are not well established yet. The purpose of this study is to investigate the characteristics and prognostic factors of elderly patients over 80 years of age undergoing stent-retriever thrombectomy.

Methods From 2013 to 2017, we analyzed the prospective gathered data of 190 consecutive patients treated with mechanical thrombectomy using stent-retrievers for acute ischemic stroke in a single center. Demographic, clinical, laboratory, and radiologic features of each patient were invasaged. We compared the characteristics of elderly patients over 80 year-old with those of younger patients and evaluated the prognostic factors associated with good outcomes in elderly patients.

Results Of the total 133 patients, 34 patients (25.6%) were over 80 years old. Initial ASPECT score (9.41 vs 8.78, p=0.016), 30 days mRS (4.21 vs 3.18, p=0.003) and 90 days mRS(4.15 vs 2.95, p=0.001) were significantly higher at elderly patients. Hypertension history (p<0.001), underlying atrial fibrillation (p=0.007) were significantly more common in elderly patients. The favorable outcomes (mRS≤2, p=0.035) were significantly different between the two groups. Because the 30 days and 90days mRS were higher in the elderly patients after mechanical thrombectomy, prognosis may be worse and other complications should be noted.

Conclusions Elderly patients over 80 year-old had a few more underlying diseases, and the functional outcome was slightly worse after mechanical thrombectomy using stent retriever in acute cerebral infarction. However, the prognostic factors such as mortality and favorable outcome did not differ significantly between the two groups. Elderly patients should also consider aggressive treatment while appropriately controlling underlying diseases.


E-140 STRATEGIZING TANDEM OCCLUSION ACUTE STROKE MANAGEMENT BASED ON CTA

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10.1136/neurintsurg-2019-SNIS.215

Objectives To strategize the management of major stroke secondary to tandem occlusions of extracranial ICA and Intracranial ICA/MCA based on the collateral assessment in the pre-procedure CTA.

Methods In a retrospective analysis of our Stroke Thrombectomy database (n = 85), treated between August 2016 to December 2018 we identified 15 patients who presented with tandem occlusion. 13 were atherosclerotic disease and 2 were carotid dissection along with middle cerebral artery or distal ICA occlusion. All patients had pre-procedure CT angiogram, along with the primary pathology, collaterals comprising of Acom and Pcom arteries and their caliber was analyzed. All except 3 patients were treated with balloon