limited by local vessel structures and may lack neurovascular feeder vessels. Limited feedback devalues assessment of particu-
lation and downstream migration of devices/materials. NAU’s Bioengineering Devices Lab has developed an in vitro blood flow and stroke model, which replicates the conditions of the neurovascular system. In prior workings, the in vitro model has quantified material particulation via filtration to capture particles and microscopy to analyze captured particles. Now, the process is a non-invasive method that has been developed in this study to allow researchers to quantify and characterize particles in real-time.

Materials and Methods These improvements are made possible through the utilization of digital imaging processing and total internal reflection fluorescence microscopy (TIRFM). A CMOS camera captures fluorescent particles in movement through the in vitro system through an in-line cuvette. A developed algorithm is advancing to process images and characterize particles (figure 1). During the procedure, PPODA-QT is injected into the in-vitro model’s aneurysm bubble and particulate downstream migration data is collected in real-time. The system integrates LabView (National Instruments, TX) to view and collect images. The pump delivers pulsatile flow with pressure profile that can be tuned to physiological conditions. The study then concentrates on the particulate downstream migration through the modified in-line cuvette section.

Results Long and short term testing is performed on the material to determine the potential material efficiency within the vascular system. Analysis of real-time data will quantify particle size and count. Results are then compared to (<USP 788> - table 1) regulations.

<table>
<thead>
<tr>
<th>Particulate Size</th>
<th>Required Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 100 μm</td>
<td>0 particles</td>
</tr>
<tr>
<td>25 μm to 100 μm</td>
<td>&lt; 300 particles</td>
</tr>
<tr>
<td>10 μm to 25 μm</td>
<td>&lt; 3000 particles</td>
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</tbody>
</table>

Conclusion The study results will help predict device performance within the neurovascular system to affirm the safety of the polymer biomaterial, PPODA-QT, in practical usage. Utilizing state of the art equipment and procedures, new innovative research can be conducted.

Disclosures I. Smith: None.
the trans-carotid group, but not statistically significant. There was no difference between groups regarding the 90-days mRS outcome (3.88 vs 3.87, p=0.95). Two patients in transcarotid group suffered an iatrogenic cervical ICA dissection and a small pseudoaneurysm 1 × 5 mm without incident. Two patients also developed neck hematomas that were managed with conservative manual compression.

Conclusion A trans-carotid approach is a relatively safe alternative to transfemoral approach in MT, and may be considered in patients with a type 3 aortic arch, cervical vasculature with >1 tortuous segment (>90 degrees), and/or an angular tortuosity summing >360 degrees from the aortic arch to the carotid bifurcation. These patients were more likely to be older and have a history of previous stroke/TIA.


E-101 LOW DOSE EPTIFIBATIDE IN THE MANAGEMENT OF TANDEM OCCLUSION

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Introduction Tandem intracranial/extracranial occlusion presents a challenge due to the coincident risks of symptomatic intracranial hemorrhage (SICH) and carotid re-occlusion. Various anti-thrombotic regimens have been reported with mixed results for SICH, but infrequent analysis of cervical carotid patency. We present a single center, retrospective analysis of tandem occlusion patients treated with low dose eptifibatide, with emphasis on rates of hemorrhage and rigorous reporting of cervical carotid artery patency. The work is unique due to the completeness of vessel imaging follow-up.

Materials and Methods N=58 patients were administered a low dose perioperative eptifibatide regimen (135 mcg/kg bolus, 1 mcg/kg/min infusion) during intracranial thrombectomy and extracranial carotid angioplasty ± stent placement. A prospective database was reviewed retrospectively for patient characteristics, clinical and imaging outcomes. Determination of SICH was per the SITS-MOST definition. Management of the intracranial occlusion by direct aspiration (ADAPT) or combination therapy (CAPTIVE) was per physician choice, as was management of the extracranial lesion with stenting or angioplasty alone. Patients were converted to dual oral anti-platelet therapy with aspirin and clopidogrel or ticagrelor if the 24 hour ultrasound and CT demonstrated carotid patency and no significant hemorrhage.

Results The average age and NIHSS were 64 and 16, respectively, with tPA use in 43% of cases. ASPECTS scores were 8–10 in N=47 (81%) and 5–7 in N=11 (19%). N=38 patients had stenting acutely, while N=20 had angioplasty alone, 6 of whom had delayed endarterectomy or stenting within the first week. All patients had brain imaging within 24–36 hours. Any evidence of intracranial hemorrhage was present in n=18 (29%), mostly petechial or small subarachnoid hemorrhage, with only one case of SICH (2%). Technical success (TICI 2B or 3) was achieved in N=56 (96%). 90 day MRS was documented by phone or in person in 57/58 patients (one patient lost to follow up). 90 day MRS of 0–2 was achieved in N=42 (72%), with MRS of 6 in N=5 (9%). All patients had duplex within 36 hours. There were N=4 (7%) acute re-occlusions, all in patients originally treated with stenting. N=49 patients had carotid imaging at 30–60 days (5 deceased, 3 not done, 1 lost to follow up), with an additional N=3 re-occlusions (6%), two of whom had stents and one angioplasty alone. Carotid artery patency at 30–60 days for patients imaged was 86% (42/49). No acute or delayed carotid occlusion was associated with clinical decline, and 5/7 (71%) had 90 day MRS of 0–2.

Conclusion Within this cohort, low dose eptifibatide in the tandem occlusion population seemed to be safe with a low incidence of SICH. Cervical carotid artery re-occlusions did occur with an overall 30–60 day patency of 86%. Re-occlusion was not associated with clinical decline in any patient. In the absence of a control arm, it is unknown whether cervical carotid patency is improved with low dose eptifibatide compared to any other regimen. All conclusions are limited by the small sample size, retrospective nature of the study, and lack of core lab adjudication of outcomes.

Disclosures A. Jost: None. C. Roels: None. M. Brown: None. R. Janjua: None. D. Heck: 2; C; Stryker.

E-102 ECONOMIC AND CLINICAL MODEL FOR DIRECT TRANSFER TO ANGIOSUITE PROTOCOL DEVELOPMENT


Introduction Direct transfer to angiosuite (DTAS) has consistently shown to be effective and safe shortening in-hospital workflows and encouraging long-term outcome benefits. In order to generalize DTAS an organizational and manpower effort is necessary. We aim to perform a cost-effective analysis of the implementation of a new angiography suite primarily dedicated to DTAS of stroke patients that will allow generalization of this pathway.

Materials and Methods 61 patients who underwent endovascular treatment (EVT) following DTAS were matched for baseline variables to 117 patients who underwent conventional