

recurrent ischemic stroke. In this single-center retrospective case series we evaluated a novel low profile laser-cut stent with an antithrombogenic hydrophilic polymer coating (pEGASUS-HPC, Phenox GmbH, Bochum, Germany) for the treatment of intracranial stenosis in the setting of thrombectomy and elective cases.

Aim of Study To evaluate whether bail-out and elective stenting using this stent is effective and safe.

Methods All patients treated with pEGASUS-HPC for one or more intracranial arterial stenoses at our institution were retrospectively included. Clinical, imaging and procedural parameters as well as clinical and imaging follow-up data were collected.

Results We performed 43 interventions in 41 patients with 42 stenoses in our neurovascular center between August 2021 and February 2024. Twenty-one patients (51.2%) were female. Mean age was 71 years (+-10.8). Thirty-seven (86.1%) procedures were performed in the setting of endovascular acute ischemic stroke treatment. Technical or procedural complications occurred in seven patients (16.3%), six in the thrombectomy-group and one in the elective group. Two stent-related hemorrhagic complications in emergency cases (one SAH, one abdominal bleeding) were observed; one symptomatic intracerebral hemorrhage (sICH) occurred in a patient treated in an elective setting. Overall stenosis-reduction following pEGASUS-HPC stent-implantation was 53.0% (+-18.0). On follow up imaging, which was available for 16 patients (37.2%) after an average of 32 days (+-58.6), 62.5% of these stents were patent.

Conclusion Our single-center case series demonstrates the feasibility of using the pEGASUS-HPC stent system especially in emergency situations when thrombectomy fails.

Disclosure of Interest yes Daniel Pielenz: Phenox - travel expenses. David Fiorella: Medtronic, Cerenovous, Microvention, Penumbra, Stryker, Balt USA, Seimens, Mentice, Neurogami, Rapid.AI, Rapid Medical, Q'apel Medical, Arsenal Medical, Phenox, Scientia, NVMed, Perfuze, Vesalio - Consulting fees; Medtronic, Cerenovous, Microvention, Penumbra, Stryker, Balt USA, Q'apel Medical - Speaker honoraria; Medtronic, Cerenovous, Microvention, Penumbra, Stryker, Balt USA, Seimens, Mentice, Neurogami, Rapid.AI, Rapid Medical, Q'apel Medical, Arsenal Medical, Phenox, Scientia, NVMed, Perfuze, Vesalio - Travel expenses; Scientia, MENTICE, Neurogami, NVMed, Perfuze - Leadership role; Scientia, Perfuze, NVMED, Mentice, Neurogami - Stock options. Joachim Klisch: Phenox - travel expenses, speaker honoraria; Phenox, Microvention - Consulting fees (money paid to institution). Matthias Gawlitza: Phenox - speaker honoraria, consulting fees; Microvention - speaker honoraria, consulting fees; Balt - consulting fees; Simq GmbH - Scientific advisory board member. Andreas Steinbrecher, Elmar Lobsien, Elke Leinisch: none. Karl-Titus Hoffmann: Bayer - speaking honoraria, advisory fees. Donald Lobsien: Phenox - travel expenses, speaker honoraria (money paid to institution).

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REAL-WORLD PATIENT OUTCOMES FOLLOWING EMERGENT LARGE VESSEL OCCLUSION TREATED WITH THE EMOGUARD BALLOON GUIDE CATHETER

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Introduction The use of balloon guide catheters in the treatment of emergent large vessel occlusion is associated with better clinical outcomes at 90 days. There is limited data on whether the use of a balloon guide catheter is associated with a higher rate of clinical improvement prior to 90 days.

Aim of Study We aim to assess whether the use of the Emboguard Balloon Guide Catheter for treatment of acute ischemic stroke is associated with better neurological outcomes at discharge.

Methods Deidentified data from the Neurovascular Quality Initiative - Quality Outcomes Database (NVQI-QOD) was analyzed. The database was reviewed to identify patients who underwent mechanical thrombectomy for emergent large vessel occlusion with an Emboguard Balloon Guide catheter. Baseline patient demographic, clinical, and imaging characteristics, and clinical and imaging outcomes were assessed.

Results 71 patients underwent mechanical thrombectomy between September 2022 and January 2024. Their mean age is 69.3 ± 14.8 years. 65 (91.5%) of patients had a baseline (mRS) of 0-1, and an NIH Stroke Scale score of 16.5 ± 7.1 . 52% had an M1 occlusion, and 21.5%, a tandem occlusion. Reperfusion occurred at 9.5 ± 8.6 hours from estimated onset. The mean access-to-reperfusion time was 39.5 ± 20.4 minutes, with mTICI 2b-3 reperfusion in 91.6%. There was a 10-point decrease in mean NIHSS at discharge (6.5 ± 6.9). No complications occurred related to the balloon guide catheter. At discharge, 32.4% of patients went to acute rehabilitation and 36.6% returned home.

Conclusion In the NVQI-QOD, the use of the Emboguard Balloon Guide Catheter is associated with excellent clinical outcome at discharge.

Disclosure of Interest yes JP Tsai: Consultant for Cerenovous; MS Hussain: Scientific Advisory Board for Cerenovous, Clinical Event Committee Chair for MEMBRANE study.

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TENZING®-DOTTER TECHNIQUE FOR ENDOVASCULAR MANAGEMENT OF ATHEROSCLEROTIC CERVICAL ICA TANDEM LARGE VESSEL OCCLUSIONS

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Introduction The optimal endovascular treatment approach of acute tandem large vessel occlusion (TLVO) stroke remains unclear. Tenzing (Route 92 Medical, San Mateo, CA) delivery catheters have atraumatic tapered distal tips that may permit Dotter angioplasty and delivery of 0.070-0.088 catheters through cervical steno-occlusions to gain intracranial access for LVO thrombectomy.

Aim of Study We describe our initial experience using the novel Tenzing-Dotter technique in TLVO patients.

Methods We retrospectively reviewed clinical and angiographic data of consecutive TLVO patients treated with Tenzing-Dotter technique using Tenzing® 7 and Tenzing® 8 at our center.

Results Twenty TLVO patients were identified: mean age was 65(44 - 89); 40% female. The mean NIHSS was 14(7-25). The ipsilateral cervical ICA was occluded in 11/20(55%) or severely stenotic in 9/20(45%). The intracranial LVO were carotid terminus (5), M1 (14) and M2 (1). Seven patients were treated with Tenzing 7 paired with a 0.070' catheter, while 13 were treated with Tenzing 8 paired with a 0.088' catheter.

Successful cervical lesion crossing was achieved in 100% using the Tenzing-Dotter delivery technique. Mean time from groin puncture to successful Tenzing-Dotter delivery was 11 minutes, and the mean time from groin puncture to device delivery to the intracranial occlusion was 15 minutes. TICI 2B or greater reperfusion was achieved in 100%, with a mean time to best TICI of 21 minutes. Mean cervical ICA stenosis improved from 97% to 67%. No symptomatic intracranial hemorrhage or cervical dissections were noted.

Conclusion The Tenzing-Dotter technique may be promising for safe and fast access for TLVO thrombectomy.

2.2. Imaging

P129 MACHINE LEARNING IMAGING-BASED DIFFERENTIATION OF CLOT COMPOSITION IN ACUTE ISCHEMIC STROKE AND ITS POTENTIAL USE IN DECISION-MAKING IN MECHANICAL THROMBECTOMY

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Introduction Clot composition is variable and may influence the efficacy of mechanical thrombectomy (MT) devices for endovascular treatment of acute ischemic stroke (AIS) from large or medium vessel occlusions. Predictive methods may help the neurointerventionalist in appropriate device selection.

Aim of Study To explore the potential of machine learning to accurately determine clot histological characteristics.

Methods Data from non-contrast CT (NCCT) and CT angiography (CTA) were collected from 10 AIS patients with middle cerebral artery occlusions. Automated clot analysis software (Nicolab, Amsterdam, the Netherlands) was used to evaluate clot perviousness by analyzing clot attenuation increase (CAI) using each patient's NCCT and CTA datasets. Predetermined CAI thresholds were applied to classify clots as impervious, semi-pervious, and pervious. Histological analysis was done on the clot specimens and quantified for correlation with clot perviousness.

Results The software categorized the clot samples as follows: 50% were semi-pervious, 30% were impervious, and 20% were pervious. Statistical analyses did not reveal a significant correlation between histological clot composition and software-determined perviousness. However, fibrin-dominant (>90%) clots were observed in both impervious and pervious groups. Conversely, semi-pervious clots exhibited mixed and red blood cell content, ranging from 24.5% to 51.9%. Notably, an impervious sample was identified to contain mature fibrin, highlighting potential variability within clot composition.

Conclusion Despite the absence of significant correlations, a trend emerged, indicating that clots with extreme perviousness characteristics may be predominantly composed of a single component. Our findings suggest there may be a potential for machine learning to optimize MT.

Disclosure of Interest yes This study was sponsored by Nicolab.

2.1. Logistics

P130 SHORTENING DOOR-TO-PUNCTURE TIME (DPT) FOR MECHANICAL THROMBECTOMY (MT) IN ISCHEMIC STROKE IN SINGAPORE'S LARGEST HOSPITAL

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Introduction Mechanical Thrombectomy (MT) is now the gold standard for acute large vessel occlusion ischemic stroke. Actualizing MT for eligible patients is a time-sensitive, multi-disciplinary, multi-step endeavor. As 'time is brain', we embarked on a multi-disciplinary quality improvement project to reduce door-to-puncture time (DPT) for MT.

Aim of Study Identify and improve processes along the patient journey from door to puncture to reduce DPT for MT eligible patients from a median of 130 minutes to 80 minutes, in line with American Stroke Association targets.

Methods The project was conducted in 2 broad phases: current state analysis, followed by solution development and implementation. Various parts of MT were identified. Existing literature was studied, and innovative ideas were generated for applicable solutions on each part. These solutions were put through Plan, Do, Study, Act (PDSA) iterative cycles. Solutions were piloted across 4 PDSA cycles. Multiple interventions were applied along the PDSA cycles, including concepts of parallel processing, standardization and training, active feedback to nudge behavior, push systems, technological tools, and elimination of steps.

Results A total of 88 cases between June 2021 and January 2023 were included in analysis. Following the 4th PDSA cycle, median DPT reduced by 36.5% from 130 mins to 82.5 mins.

Conclusion MT is a complex process. Analysis of the process from multiple angles and intervening on multiple small aspects can add up to significant improvement in DPT.

Disclosure of Interest no.

P131 COMPARING VALIDATED STROKE SCREENING SCALES FOR IDENTIFYING LARGE AND MEDIUM VESSEL OCCLUSIONS: A PROSPECTIVE, OBSERVATIONAL COHORT STUDY

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Introduction Pre-hospital identification of large vessel occlusions (AIS-LVO) has proven to be successful in interhospital transfers and triaging.

Aim of Study This study compares 8 stroke screening scales to detect anterior and posterior circulation AIS-LVO and AIS secondary to medium vessel occlusions (AIS-MeVO).