

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

¹Abigail Shin, ¹Juyu Chueh, ¹Emanuele Orru, ²Ivo Jansen. ¹Lahey Hospital and Medical Center, Burlington, USA; ²Nicolab, Amsterdam, Netherlands

10.1136/jnis-2024-ESMINT.165

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

¹Zhenghong Liu, ^{1,2}Steve Chen Pong Wong, ³Manqing Leong, ³Nanlan Li, ¹Mavis Miqi Teo, ¹Rachel Leong, ¹Jing Si Chew, ¹Yee Hau Pang, ¹Ghim Song Chia. ¹Singapore General Hospital, Singapore; ²CHU Reims, Reims, France; ³Singhealth, Singapore

10.1136/jnis-2024-ESMINT.166

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

Sachin Kothari, Archit Baskaran, Neha Sehgal, Rami Z Morsi, Okker Verhagen Metman, Harsh Desai, Ahmad Chahine, Lina Karar, Julian Carrion Penagos, Sonam Thind, Jehad Zakaria, James Siegler, Elisheva Coleman, James R Brorson, Scott Mendelson, Ali Mansour, Shyam Prabhakaran, Tareq Kass-Hout. *University of Chicago Medical Center, Chicago, USA*

10.1136/jnis-2024-ESMINT.167

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).