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P152/178 SAFETY AND EFFICIENCY OF BRIDGING I.V. THROMBOLYSIS IN M2 OCCLUSIONS: A PROPENSITY-SCORE-MATCHED REGISTRY COHORT STUDY

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Introduction DIRECT-SAFE and SWIFT DIRECT did not show noninferiority of mechanical thrombectomy (MT) alone compared with intravenous thrombolysis (IVT) plus MT. However, for isolated M2-occlusions, data is scarce.

Aim of Study This study aims to evaluate safety and efficiency of bridging-IVT+MT compared to MT only in M2-occlusions.

Methods All patients prospectively enrolled in the German Stroke Registry-ET (05/2015–12/2021; N=13082) were screened for isolated M2-occlusions. Primary endpoint was defined as functional independence (90d mRS≤2), secondary endpoints were excellent outcome (90d mRS≤1), increase in mRS-points pre-stroke to 90d and successful reperfusion (TICI≥2b). Safety outcomes were intracranial hemorrhage (ICH) during treatment and symptomatic intracranial hemorrhage (sICH) at 24h (ECASS II). Propensity-score-matched cohorts (age, pre-stroke-mRS, NIHSS-admission, ASPECTS, time symptom onset to admission) of patients receiving IVT+MT vs. MT alone were compared using standard descriptive statistics and multivariable regression.

Results N=618 matched cases were analyzed (IVT+MT:309; MT:309). No differences were found in age (77y), pre-stroke-mRS (0.8), NIHSS-admission (10.8) and recanalization success (TICI≥2b 84%). IVT was not associated with higher probability of functional independence, however, 90d-mRS (2.9 vs. 3.4, p<0.01) and pre-stroke to 90d-mRS increase (+2.1 vs. +2.6, p<0.01) was lower in patients receiving MT+IVT. No significant differences were found for ICH (MT:4.9%, MT+IVT:6.1%, p=0.481) and sICH (MT:3.9%, MT+IVT:2.9%, p=0.506).

Conclusion In M2-occlusions, MT+IVT was not associated with increased risk of sICH. Patients receiving MT+IVT had lower 90d-mRS and a lower increase in mRS pre-stroke to 90d. However, probability of functional independence and rates of successful recanalization were similar compared to matched controls.

Disclosure of Interest HK has financial interest in Eppdata GmbH.

GT received fees as consultant and lecturer from Acandis, Alexion, Amarin, Boehringer Ingelheim, Bayer, BMS/Pfizer, Daiichi Sankyo and Portola. He serves in the board of the TEA Stroke Study and of ESO.

JF is consultant for Cerenovus, Medtronic, Microvention, Penumbra, Phenox, Roche, Stryker and Tonbridge. He is stock

holder of Tegus Medical, Eppdata and Vastrax. He serves as Associate Editor at JNIS.

All other authors have nothing to disclose.

P153/189 ECONOMIC IMPACT OF IMPROVED FUNCTIONAL OUTCOMES ASSOCIATED WITH THE EMBOTRAP DEVICE VS. TREVO RETRIEVER AND SOLITAIRE REVASCLARIZATION DEVICE FOR TREATMENT OF ACUTE ISCHEMIC STROKE: AN ECONOMIC ANALYSIS OF MASTRO I FROM A GERMAN HOSPITAL PERSPECTIVE

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Introduction Stroke is a leading cause of death and disability globally, with an estimated European economic burden of €45 billion annually. The MASTRO I meta-analysis found the use of the EmboTrap Revascularization Device during mechanical thrombectomy (MT) resulted in higher rates of good functional outcomes (90-day mRS 0–2) compared to the Trevo Retriever and Solitaire Revascularization Device.

Aim of Study This analysis estimates the cost-consequence of stent retriever (SR) choice based on results reported in MASTRO I.

Methods A cost analysis with a German hospital (short-term) perspective was developed using a decision tree to simulate index hospitalization costs for a cohort of acute ischemic stroke patients achieving mRS 0–2 vs 3–5 treated with EmboTrap, Trevo or Solitaire. Short-term costs were calculated per device based on hospital length of stay by mRS level and reported inpatient cost per day. Patients who died within 90-days of treatment (mRS 6) were excluded. Hospital cost savings were reported.

Results Assuming price parity across all three SRs, total per-patient short-term index hospitalization costs for EmboTrap, Trevo and Solitaire were €12.723, €13.328, €13.482, respectively, resulting in cost savings favoring EmboTrap of €604 vs Trevo and €759 vs Solitaire. Cost savings persisted in sensitivity analysis based on varying premium pricing by 5–10% for EmboTrap.

Conclusion The use of EmboTrap in Germany may lead to reduction in short-term hospital costs, compared to Solitaire or Trevo due to improved patient functional outcomes (90-day mRS 0–2). These findings may inform evidence-based decision making when selecting a cost-efficient SR for MT.

Disclosure of Interest Osama Zaidat reports consulting fees for Stryker, Medtronic, Cerenovus, and Penumbra; research grants from Stryker, Medtronic, Cerenovus, Penumbra, and Genentech; in addition, Dr Zaidat had a patent for ischemic stroke issued.

Tommy Andersson is a consultant for Anaconda, Cerenovus, Neuravi and Rapid Medical, and holds equity in Ceroflo.

Mina Kabiri is an employee of Johnson & Johnson.
Shanti Scheffler is an employee of Johnson & Johnson.
Emilie Kottenmeier is an employee of Johnson & Johnson.

P154/193 **IMPACT OF STENT-RETRIEVER TIP DESIGN ON DISTAL EMBOLIZATION DURING MECHANICAL THROMBECTOMY: A RANDOMIZED IN VITRO EVALUATION**

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Introduction Repeated number of passes, clot fragmentation, and distal embolization during mechanical thrombectomy lead to worse clinical outcomes in acute ischemic stroke.

Aim of Study This study aims to assess the recanalization and embolic outcomes of different stent-retrievers (SR): open-tip SR (Solitaire X 6x40 mm), closed-tip SR (Embotrap II 5x33 mm), and filter-tip SR (NeVa NET 5.5x37 mm).

Methods Stiff-friable clot analogs were used to create middle cerebral artery (M1-MCA) occlusions in a benchtop model. After occlusion, experiments were randomized into one of the three treatment arms. The thrombectomy technique consisted of retrieving the SR into a balloon guide catheter under proximal flow arrest and continuous aspiration. A total of 150 single-attempt cases were performed (50 cases/treatment arm). Distal emboli (>100µm) were collected and analyzed after each experiment.

Results Filter-tip SR achieved a higher first-pass recanalization rate than open-tip SR and closed-tip SR (66% vs. 48% vs. 44%; $p=0.064$). Filter-tip SR prevented clot fragments >1 mm from embolizing distal territories in 44% of cases, compared to 16% in open-tip SR and 20% in closed-tip ($p=0.003$). There were no significant differences between treatment arms in terms of total emboli count (open-tip=19.2 ±13.1, closed-tip=19.1±10.7, filter-tip=17.2±13.0; $p=0.660$). Nonetheless, the number of large emboli (>1 mm) and total area of emboli were significantly lower in the filter-tip arm ($n=0.88±1.2$, $A=2.06±1.85$ mm²) than in the closed-tip ($n=2.34±3.38$, $A=4.06±4.80$ mm²), $p<0.05$.

Conclusions When facing fragment-prone clots, the filter-tip SR significantly reduces the number of large clots (>1 mm) that embolize distally during an MT procedure, potentially increasing the chances of first-pass complete recanalization.

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Vesalio MR declares ownership of Anaconda Biomed and Methinks shares. MR received consulting fees from Anaconda Biomed, Apta Targets, Medtronic, Stryker,

Cerenovus, and Philips. AT reports receiving consulting fees from Anaconda Biomed,

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P155/200 **USEFULNESS OF QUADRI-AXIAL SYSTEM IN MECHANICAL THROMBECTOMY IN ACUTE ISCHEMIC STROKE: REDEFINING THE BOUNDARIES OF TRANS-FEMORAL ACCESS**

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Introduction Tri-axial system (TAS) via trans-femoral access (TFA) is widely used for mechanical thrombectomy (MT) in acute ischemic stroke (AIS). Quadri-axial system (QAS) via TFA has been rarely reported and not systematically described. **Aim of Study** To demonstrate safety and effectiveness of QAS compared with TAS for MT.

Methods We retrospectively analyzed 321 consecutive patients who underwent MT for AIS at our Institution from August 2019 to December 2022. Patients were divided in two groups: TAS (using short 8F sheath) and QAS (using long 8F sheath). Puncture to recanalization time, number of passes for recanalization, mTICI score, technical failure due to aortic arch/vessel anatomy, complication rate were compared.

Results TAS was used in 179 patients and QAS in 142 patients. Mean procedure duration was 53.2 minutes in TAS and 43.64 minutes in QAS group. In TAS group procedure was completed in 96% ($n=172$) and abandoned in 1.67% ($n=3$) for challenging vascular anatomy. In QAS group procedure was completed in 99% ($n=141$); none was abandoned due to vascular anatomy. Favourable recanalization was reported in 62% ($n=107$) in TAS and in 81% ($n=115$) in QAS group. First pass recanalization was achieved in 42% ($n=75$) in TAS and 51% ($n=75$) in QAS group. Complication rate (4%) was similar in both groups.

Conclusion QAS via TFA for MT in AIS is a safe and effective technique, even in challenging cases, allowing faster and more successful procedures without increasing complications. QAS could redefine and widen the boundaries of TFA in AIS.

Disclosure of Interest Nothing to disclose.

P156/208 **ASSOCIATION BETWEEN ARTERIAL DIAMETER AND OUTCOME IN ACUTE M2 OCCLUSIVE ISCHEMIC STROKE PATIENTS TREATED WITH ENDOVASCULAR THROMBECTOMY**

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Introduction Clinical outcome is differed by the occluded location of M2 segment in endovascular thrombectomy (EVT). However, there is no report about the association between arterial diameter and outcomes.

Aim of Study We aimed to evaluate the relationship between arterial diameter of acute M2 occlusive patients treated with EVT and the outcomes.

Methods Using a prospective single center EVT registry, we identified acute M2 occlusion treated with EVT from 2011 to 2016. Diameter was measured at the proximal occluded