Introduction EXCELLENT (NCT03685578) is a prospective, single-arm, multicenter, real-world international registry of mechanical thrombectomy (MT) for stroke with the EmboTrap device as first-line treatment. The study entails thrombus analysis of specimens collected with each MT pass.

Aim of the Study To compare rates of mRS 0–2 at 90 days and clot characteristics in subjects with and without first pass effect (FPE).

Methods FPE was defined as mTICI 2c/3 after one pass and non-FPE as mTICI 2c/3 after >1 pass as adjudicated by an independent core lab. Clot analysis was performed by independent central labs blinded to clinical data. mRS at 90 days was scored by investigators blinded to procedural data.

Results Overall mTICI 2c/3 rates were 63.7% (326/512), FPE was achieved in 37.1% (190/512) and non-FPE in 26.6% (136/512) subjects. 90 day mRS 0–2 or equal to pre-stroke was achieved in 47.2% (75/159) with FPE and in 42.1% (51/121) non-FPE patients. All-cause 90-day mortality was 19.1% (34/178) in subjects with FPE and 26.4% (34/129) in subjects non-FPE as mTICI 2c/3 after >1 pass as adjudicated by an independent core lab. Clot analysis was performed by independent central labs blinded to clinical data. mRS at 90 days was scored by investigators blinded to procedural data.

Conclusions The novel 0.088” aspiration catheter achieves the best FPE rates in both ICA and MCA occlusions. In terms of existing techniques, ADAPT is more effective in the MCA, while the stentrievers provide a benefit in the ICA.

REFERENCES

Disclosure Seán Fitzgerald received research funding from Enterprise Ireland that is co-funded by Peruze Ltd. Liam Mullins declares the following competing interest; Peruze (stock options). John Thornton declares the following competing interests; Peruze (Physician Advisory Board, stock options); Consultancy fees: Microvention, Johnson and Johnson. Raul G. Nogueira declares the following competing interests: consulting fees for advisory roles with Anaconda, Biogen, Cerenovus, Genentech, Imperative Care, Medtronic, Phenox, Prolong Pharmaceuticals, Stryker Neurovascular and stock options for advisory roles with Astrocyte, Brainomix, Cerebrotech, Ceretrieve, Corinicus Vascular Robotics, Valsalvo, Viz-AI, and Peruze.

EP47* INVESTIGATION OF CURRENT AND NOVEL TREATMENT STRATEGIES FOR ICA AND MCA OCCLUSIONS IN AN IN-VITRO THROMBECTOMY MODEL

Introduction Various mechanical thrombectomy devices and techniques including Stentrievers and Aspiration Catheters are used in the treatment of acute ischemic stroke. Balloon Guide Catheters (BGC) are commonly used to achieve flow control. A new generation of ‘Super-bore’ 088” catheters are currently being tested clinically. 1,2,3

Objective/Aim We evaluated the in-vitro revascularization performance of current and novel thrombectomy approaches.

Methods National University of Ireland Galway Research Ethics Committee approved the study. Clot analogues from human blood were used to create ICA (20 mm) and MCA (10 mm) occlusions in an In-vitro thrombectomy model. Thrombectomy setups tested were; ADAPT: Millipede 088, SOFIA, SOFIA+BGC and Combination; Millipede 088+Solitaire, SOFIA+BGC+Solitaire, SOFIA+Solitaire. 10 replicates of each test were performed. Endpoints were First Pass Effect (FPE), Second and Third-pass success and procedural-related distal emboli from 50–1000μm.

Results The Millipede 088 catheter achieved the highest rate of FPE in both ICA (60%) and MCA (100%) occlusions and had the lowest number of procedural-related emboli compared to all other device setups, followed by the Millipede 088+Solitaire technique. Of the currently used techniques, the use of a Solitaire in combination with a SOFIA lead to a higher rate of FPE in ICA occlusions (40% vs 20%, SOFIA+BGC+Solitaire vs SOFIA+BGC), but a lower rate of FPE in MCA occlusions (50% vs 60%, SOFIA+BGC+Solitaire vs SOFIA+BGC).

Conclusions The novel 0.088” aspiration catheter achieves the best FPE rates in both ICA and MCA occlusions. In terms of existing techniques, ADAPT is more effective in the MCA, while the stentrievers provide a benefit in the ICA.

EP48* SAFETY AND EFFECTIVENESS OF MECHANICAL THROMBECTOMY FOR PRIMARY ISOLATED DISTAL VESSEL OCCLUSIONS: A MONOCENTRIC RETROSPECTIVE COMPARATIVE STUDY

Introduction Various mechanical thrombectomy devices and techniques including Stentrievers and Aspiration Catheters are used in the treatment of acute ischemic stroke. Balloon Guide Catheters (BGC) are commonly used to achieve flow control. A new generation of ‘Super-bore’ 088” catheters are currently being tested clinically. 1,2,3

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Conclusions The novel 0.088” aspiration catheter achieves the best FPE rates in both ICA and MCA occlusions. In terms of existing techniques, ADAPT is more effective in the MCA, while the stentrievers provide a benefit in the ICA.

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