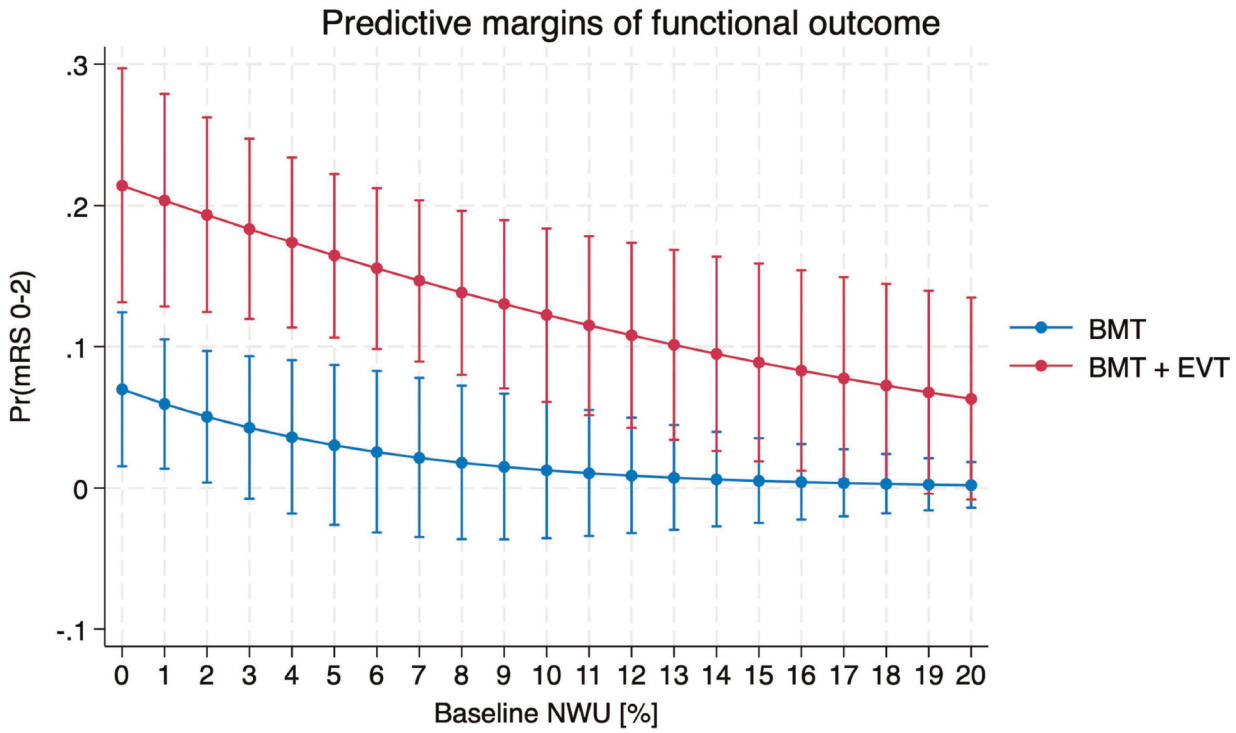

Abstract O09 Figure 2

functional outcome and should be considered as image criterion besides ASPECTS to select patients for EVT, particularly in borderline cases.

Disclosure of Interest no.

O10 INCIDENCE AND CLINICAL OUTCOMES OF PERFORATIONS DURING MECHANICAL THROMBECTOMY FOR MEDIUM VESSEL OCCLUSION IN ACUTE ISCHEMIC STROKE: A RETROSPECTIVE, MULTICENTER, AND MULTINATIONAL STUDY

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Introduction Mechanical thrombectomy (MT) has revolutionized the treatment of acute ischemic stroke (AIS) due to large vessel occlusion (LVO), but its efficacy and safety in medium vessel occlusion (MeVO) remain less explored.

Aim of Study This multicenter, retrospective study aims to investigate the incidence and clinical outcomes of vessel perforations (confirmed by extravasation during an angiographic series) during MT for AIS caused by MeVO.

Methods Data were collected from 37 academic centers across North America, Asia, and Europe between September 2017 and July 2021. A total of 1373 AIS patients with MeVO underwent MT. Baseline characteristics, procedural details, and outcomes were analyzed.

Results The incidence of vessel perforation was 4.8% (66/1373). Notably, our analysis indicates variations in perforation rates across different arterial segments: 8.9% in M3 segments, 4.3% in M2 segments, and 8.3% in A2 segments ($p = 0.612$). Patients with perforation had significantly worse outcomes, with lower rates of favorable angiographic outcomes (TICI 2c-3: 23% vs 58.9%, $p < 0.001$; TICI 2b-3: 56.5% vs 88.3%, $p < 0.001$). Functional outcomes were also worse in the perforation group (mRS 0–2 at 3 months: 28.8% vs 53.9%, $p < 0.001$). Mortality was higher in the perforation group (30.3% vs 16.8%, $p = 0.008$).

Conclusion This study reveals that while the occurrence of vessel perforation in MT for AIS due to MeVO is relatively rare, it is associated with poor functional outcomes and higher mortality. The findings highlight the need for increased caution and specialized training in performing MT for MeVO.

O11 THIS IS THE LARGEST MULTICENTER CASE SERIES DEMONSTRATING THE FEASIBILITY AND SAFETY OF USING THE ONYX FRONTIER™ BALLOON-MOUNTED ZOTAROLIMUS-ELUTING STENT TO TREAT SYMPTOMATIC ACUTE ISCHEMIC STROKE DUE TO INTRACRANIAL ATHEROSCLEROTIC DISEASE

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10.1136/jnis-2024-ESMINT.11

Introduction Acute ischemic stroke (AIS) due to intracranial atherosclerotic disease (ICAD) carries a high risk of recurrence despite aggressive medical management. While prior revascularization strategies using intracranial stents increased the risk of recurrent stroke in patients with intracranial stenosis, more novel devices, such as the Onyx Frontier™ stent (Medtronic, Santa Rosa, CA) in a high-risk population may safely augment cerebral perfusion.

Aim of Study The aim of our multicenter study is to present our initial experience with the Onyx Frontier™ balloon-mounted drug-eluting stent for AIS due to ICAD.

Methods We conducted a multicenter retrospective case series describing the technical feasibility, safety, and performance of using the Onyx Frontier™ balloon-mounted drug-eluting stent

in patients with acute intracranial vessel occlusion due to ICAD.

Results We included 23 patients in our study (mean age 67.3 [10.7]). The most common site of vessel occlusion was the M1 branch of the middle cerebral artery (MCA) (n=14/23, 60.9%), followed by the vertebrobasilar system (n=5/23, 21.7%), and the internal carotid artery (n=3/23, 13.0%). Treatment with the Onyx Frontier™ zotarolimus-eluting stent was associated with a final mTICI score ≥2b for 100% of patients, with no vessel perforations or distal embolization. None of the patients had any restenosis or re-treatment over a median follow-up of 3.5 months. Transfemoral access was used in most cases (n=18/23, 78.3%), with one in-hospital death due to access site complication (n=1/23, 4.3%).

Conclusion This is the largest multicenter series demonstrating the feasibility and safety of using the Onyx Frontier™ balloon-mounted stent to treat symptomatic AIS due to ICAD.

O12 IMPACT OF ARTERIAL COLLATERAL STATUS ON ENDOVASCULAR TREATMENT OUTCOMES IN ACUTE ISCHEMIC STROKE WITH LARGE INFARCT: SECONDARY ANALYSIS FROM THE TENSION TRIAL

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10.1136/jnis-2024-ESMINT.12

Introduction Randomized trials have established endovascular thrombectomy (EVT) as an effective treatment for reducing disability in large ischemic strokes, yet the impact of arterial collateral status remains uncertain.

Aim of Study The study aimed to explore whether the status of arterial collaterals alters the efficacy of EVT in patients experiencing large ischemic strokes.

Methods The TENSION trial, a multicenter randomized clinical trial, enrolled patients with acute large ischemic strokes due to anterior circulation large vessel occlusion. Participants were randomized to receive either EVT along with medical treatment or medical treatment alone within 12 hours of stroke onset. Collateral status was assessed using the Tan score on baseline CT angiography and categorized as either poor (grade 0-1) or good (grade 2-3). The primary outcome was the shift on the modified Rankin Scale score at 90 days.

Results Out of 201 patients, 51% received EVT and 49% received medical treatment alone. EVT was highly effective in patients with good collaterals (acOR, 3.93, 95% CI, 1.65-9.69, P=.002) and in patients with poor collaterals (acOR, 3.92, 95% CI, 2.12-6.54, P<.001), without modification of treatment effect by collateral status (interaction term, p=0.88). Furthermore, there was no significant influence of collateral status in dependance of time to treatment or mode of transportation.

Conclusion The findings from the TENSION trial demonstrate that EVT significantly decreases functional disability in patients with large ischemic strokes irrespective of their arterial collaterals. Therefore, EVT should be considered for all eligible patients within 12 hours from symptom onset, regardless of collateral circulation quality.

Other

3.1. Innovation

O13 FIRST-IN-HUMAN EXPERIENCE WITH NEOCAST™ A SOLVENT-FREE, NON-ADHESIVE, AND DISTAL PENETRATING EMBOLIC MATERIAL IN PRE-SURGICAL EMBOLIZATION OF HYPERVASCULAR TUMORS

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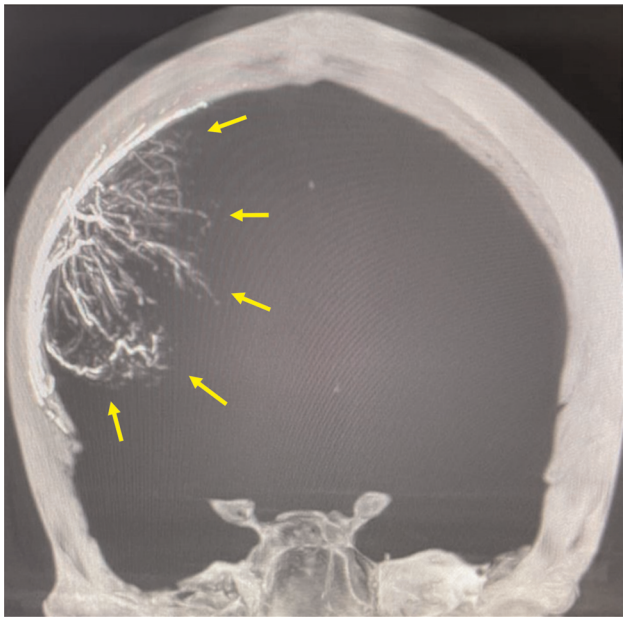
10.1136/jnis-2024-ESMINT.13

Introduction NeoCast™ is a next-generation (solvent-free and non-adhesive) embolic material that is designed specifically for procedures where deep distal penetration is desired.

Aim of Study Safety and feasibility assessment of NeoCast in pre-surgical middle meningeal artery embolization of hypervascular brain tumors.

Methods The EMBO-01 study was an open-label, multicenter, prospective first-in-human clinical trial. The primary safety endpoint was freedom from device related disabling stroke or neurological death within 30 days of the embolization procedure. The primary feasibility endpoint was defined as the successful injection of NeoCast into targeted vessel(s) supplying the tumor, resulting in complete occlusion at or distal to the point of embolysate injection.

Results Five subjects were enrolled with an average tumor size of 5.0 ± 1.2 cm. All subjects were successfully embolized with NeoCast achieving complete occlusion of targeted vessels. There were no adverse events or device deficiencies during the embolization procedure. Post-procedure CT showed exceptional penetration into the tumor vasculature with minimal artifact. An independent core lab determined there was no



Abstract O13 Figure 1