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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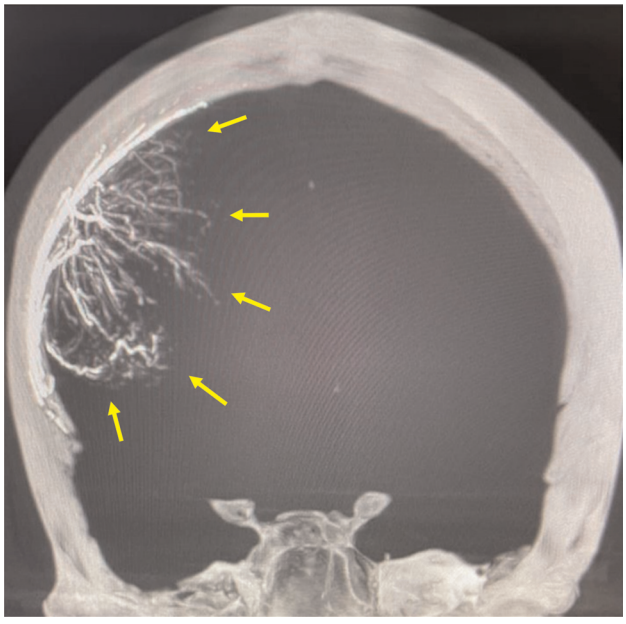
10.1136/jnis-2024-ESMINT.13

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

non-target embolization and measured the average percent tumor devascularization as 88 ± 7%. No significant differences were noted between Modified Rankin scores pre-embolization and pre-surgery. Tumor resection was successful and considered complete (Simpson Grade 1 or 2) with minimal estimated blood loss for all subjects. All subjects successfully met both the primary feasibility and safety endpoints.

Conclusion Our first-in-human clinical experience has demonstrated the potential of NeoCast, a next-generation embolic material, to provide safe and effective embolization where deep distal penetration is desired.

Disclosure of Interest no.

3.5. Miscellaneous

014 ONE-YEAR SAFETY OF TREATING COMMUNICATING HYDROCEPHALUS WITH THE ESHUNT® IMPLANT

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10.1136/jnis-2024-ESMINT.14

Introduction The eShunt Implant is a novel, endovascular cerebrospinal fluid (CSF) shunt developed to treat communicating hydrocephalus. The transdural Implant's self-expanding anchor resides within the cerebellopontine angle subarachnoid cistern and tubular body resides within the inferior petrosal dural venous sinus, draining CSF into the internal jugular vein. A differential pressure valve allows 10 cc/hr CSF outflow at physiologic pressures and prevents backflow during transient retrograde pressure spikes.

Aim of Study We present safety results through one-year in the first series of treated patients.

Methods Patients across three different hydrocephalus etiologies were implanted: normal pressure hydrocephalus (NPH), intractable hydrocephalus post-aneurysmal subarachnoid hemorrhage (paSAH), and idiopathic intracranial hypertension (IIH). Radiologic evaluation by MR or CT and modified Rankin Scale (mRS) scoring occurred at one-year and was compared to baseline.

Results Fourteen treated patients completed one-year follow-up: nine NPH (4 female; mean 75.7+/-7.3 years), four paSAH (3 female; mean 57.5+/-16.5 years), and one IIH (1 male, 50 years). No observations of radiologic or symptomatic overdrainage occurred. No instances of procedural or delayed subarachnoid, intraparenchymal or subdural hemorrhage occurred. Cross-sectional imaging immediately post-operatively compared to one-year confirmed Implant stability without antegrade or retrograde migration. mRS scores were either stable or improved compared to baseline.

Conclusion The eShunt Implant was designed as a permanent implant to drain CSF into the venous system. These preliminary results indicate a potentially acceptable long-term safety profile for treating communicating hydrocephalus. A planned clinical trial will provide a comprehensive safety assessment in a large population of patients.

Disclosure of Interest yes BB, CH, AM- CereVasc shareholders.

3.1. Innovation

015 ASSESSMENT OF DISTAL PENETRATION, RADIOPACITY, AND BIOLOGICAL SAFETY RESPONSE OF NEOCAST(TM), A UNIQUE SOLVENT-FREE, NON-ADHESIVE EMBOLIC MATERIAL

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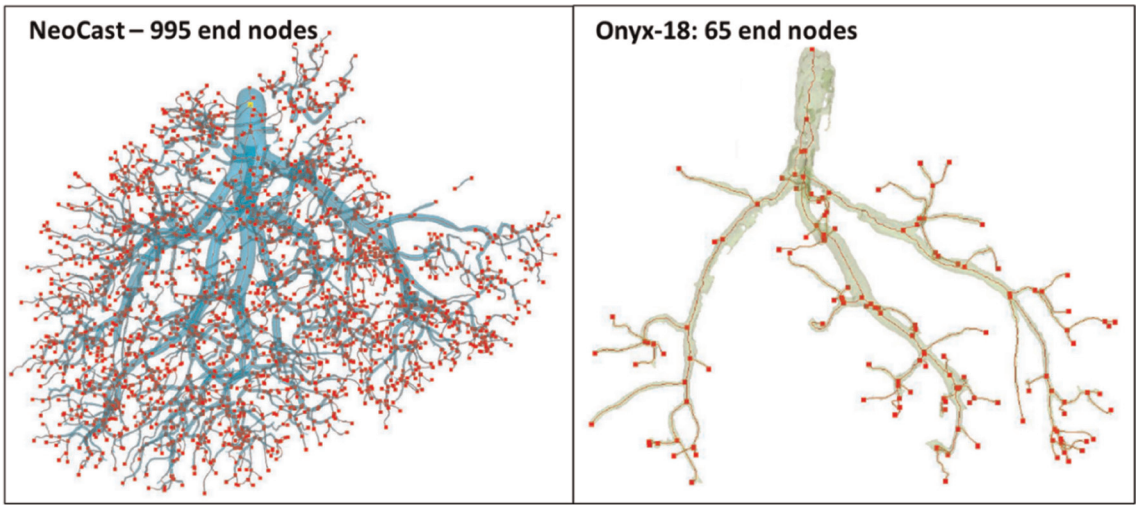
10.1136/jnis-2024-ESMINT.15

Introduction NeoCast™ is a solvent-free, shear-responsive, *in-situ* curing biomaterial designed for embolization applications where complete casting and occlusion of micron-sized vessel branches is desired.

Aim of Study Assess the preclinical performance of NeoCast with respect to distal penetration, radiopacity, and biological (vascular and brain tissue) safety response.

Methods NeoCast embolization and safety performance was evaluated in a swine kidney model at 7, 30, and 90 days



Abstract O15 Figure 1