Methods We performed a retrospective analysis of all consecutive acute ischemic stroke (AIS) patients with primary or secondary DMVO who underwent mechanical thrombectomy with the Tigertriever 13. Patients’ clinical, procedural and angiographic characteristics were reviewed.

Results Between November 2019 and November 2021, 24 DMVO were included (46% female, median age 63 [51–65] years). The overall successful reperfusion rate (mTICI 2b-3) was 88% (21/24) for the dedicated vessel. Follow-up imaging showed a subarachnoid-hemorrhage in 29% of the cases and a parenchymal hematoma in 8% while symptomatic Intracranial hemorrhages did not occurred. At 3 months, 62% of the patients (15/24) had a favorable outcome (mRS 0–2). An example is discussed in figure 1 to 7.

Conclusion Mechanical thrombectomy for both primary or secondary DMVO seems feasible and as safe as for LVO. Our initial experience using the Tigertriever13 is of special interest as it shows we can potentially significantly expand AIS population that can benefit from mechanical thrombectomy treatment.

Disclosures A. Guenego: None. B. Lubicz: None.

Abstract E-222 Figure 1

Conclusion Mechanical thrombectomy for intermittent stroke symptoms due to CCE was successfully achieved using an Embotrap device despite several days of relapsing-remitting symptoms with full neurologic recovery. Regardless of prior reports showing a low success rate, with the advent and availability of advanced thrombectomy devices, tailored endovascular treatment for patients with CCE to the brain should be strongly considered.

Disclosures A. Pandhi: None. A. Alrohimi: None. A. Mahapatra: None. A. Russman: None. G. Toth: None.

E-223 ATYPICAL DELAYED MECHANICAL THROMBECTOMY FOR CALCIFIED CARDIAC EMBOLI

A Pandhi, A Alrohimi, A Mahapatra, A Russman, G Toth. Endovascular Surgical Neuroradiology, Cleveland Clinic, Cleveland, OH; Neurology, Cleveland Clinic, Cleveland, OH

10.1136/neurintsurg-2022-SNIS.334

Background Calcified cardiac embolism to the brain requiring mechanical thrombectomy is a rare entity. Calcified cardiac emboli (CCE) are small, few millimeter particles, usually originating from calcific aortic stenosis or mitral annular calcification, either spontaneously or following cardiac valve or coronary surgery. Calcified non-cardiac emboli have also been described from cervical large vessel plaques. We present a unique case of CCE causing recurrent stroke symptoms requiring atypical delayed mechanical thrombectomy.

Methods Case description and literature review

Results A patient in their late 50’s with prior bioprosthetic aortic valve replacement presented with concerns for valve dysfunction. Workup revealed prosthetic aortic stenosis with a large mobile calcified echodensity on the valve. The patient developed recurrent, fluctuating symptoms of left facial droop, dysarthria, and left-sided weakness over several days with a return to no neurologic deficits between the 10–15 minute long spells. EEG was negative for seizures. Noncontrast head CT showed a small hyperdense lesion in the right sylvian fissure. Brain CTA was suggestive of a subocclusive right M2 thrombus. MRI confirmed small punctate infarcts in the corresponding right middle cerebral artery distribution.

The pathomechanism was presumed to be a combined ‘valve-like’ hemodynamic effect and microembolism from CCE. After extensive discussions of risks and benefits with the patient and cardiology, the patient was taken for an angiogram. Successful mechanical thrombectomy of the subocclusive calcified material at the origin of the superior M2 division was performed with a combination of an Embotrap stentriever and local aspiration. Pathology confirmed calcified debris, most likely originating from the patient’s degenerating prosthetic aortic valve. The patient made a full recovery without further recurrent symptoms. The literature search reviewed revealed a rare phenomenon with a reportedly low chance of successful thrombectomy. The use of local aspiration, stentriever with a ‘cage’ design, and even microsurgical resection have been reported.

Conclusion Mechanical thrombectomy for intermittent stroke symptoms due to CCE was successfully achieved using an Embotrap device despite several days of relapsing-remitting symptoms with full neurologic recovery. Regardless of prior reports showing a low success rate, with the advent and availability of advanced thrombectomy devices, tailored endovascular treatment for patients with CCE to the brain should be strongly considered.

Disclosures A. Pandhi: None. A. Alrohimi: None. A. Mahapatra: None. A. Russman: None. G. Toth: None.

E-224 BILATERAL EXTERNAL CAROTID ARTERY SACRIFICE IN MASSIVE REFRACTORY HEMORRHAGE OF THE PHARYNX: A CASE REPORT

S Esmaiel, A Eltatawy, M Hossein Abbasi, A Movia, A Grossman, C Prestigiacomo, P Shirani. Department of Neurology and Rehabilitation Medicin, University of Cincinnati Medical Center, Cincinnati, OH

10.1136/neurintsurg-2022-SNIS.335

Endovascular intervention can help clinicians in the control of extensive bleeding in vascular malformations, traumatic events, and during challenging intra-operative situations. Recently, unilateral embolization of the external carotid artery (ECA) or its branches in case of malignancy associated vessel blow-out (this was used in the past by several interventionists) was
introduced as a valuable alternative to exploratory surgical interventions with favorable results. To date, therapeutic ligation of bilateral ECAs has been reported once in the setting of intractable post-traumatic hemorrhage. However, the clinical outcome and safety of bilateral ECA ligation is unclear. We report a case of severe pharyngeal hemorrhage due to erosion from a previous laryngeal squamous cell carcinoma (SCC) who ultimately required permanent bilateral ECA sacrifice with no ischemic complications. This report suggests that bilateral ECA embolization may be safe in acute settings. In this report, the bleeding did not respond to conservative or surgical management and ECA embolization was used as a life-saving procedure in order to stop massive bleeding. Bilateral external carotid artery embolization is rarely employed because of the high risk of facial necrosis. Additionally, ECAs are also assumed to serve as potential blood reservoirs, particularly in the case of ICA occlusion where the ipsilateral ECA can significantly contribute to intracranial blood flow via collaterals. However, in this report, no complications were observed after the bilateral ECA was sacrificed. The possible explanation of bilateral ECAs occluding without causing tissue necrosis may be due to the presence of collaterals from the ipsilateral ICA territory, which was visualized on the control angiogram after left ECA embolization. In this report, embolization of the right ECA was performed after a minor extravasation in the initial DSA was detected. It has been documented that vascular abnormalities such as false aneurysms, arteriovenous shunts, or highly vascularized tumors can provide fast and accurate indication to target the bleeding site. It is further suggested that leakage flow is better visualized when the patient is actively bleeding during angiography and can help in targeting an active focus. Few reports have indicated bilateral ECA embolization as a life-saving technique in minimizing blood loss in cases of head trauma, surgery or tumor. However, in these studies the right and left ECAs were temporarily sacrificed or rather, embolization of each ECA was performed much later, and not as an immediate procedure thus depriving the opportunity for collateralization to develop. Abraham et al., in their study, has performed bilateral external carotid artery (ECA)ligations in patients with ischemia due to ‘stroke’ and results indicated a consistent increase in blood flow to the internal carotid artery. Hence, in cases of extensive head and neck bleeding, permanent, bilateral ECA sacrifice can be considered as a therapeutic option and a potentially life-saving procedure.


E-225 MECHANICAL THROMBECTOMY FOR THE TREATMENT OF BASILAR ARTERY OCCLUSION: FACTORS ASSOCIATED WITH THE DELAYED DOOR TO PUNCTURE TIME

B Nguyen, I Yuki, D Stradling, J Xu, K Golshani, W Yu, S Suzuki. *Neurosurgery, UC Irvine Medical Center, Orange, CA; †Neurology, UC Irvine Medical Center, Orange, CA

10.1136/neurintsurg-2022-SNIS.336

Background Performing mechanical thrombectomy (MT) in patients with basilar artery occlusion (BAO) is currently not evidence-based. It is also often encountered in the real-world practice that the delayed initiation of the MT happens for this patient groups due to relatively unclear focal neurological signs and other medical confounding factors.

Methods We retrospectively analyzed the angiographical and clinical outcomes of consecutive BAO patient who underwent MT at a single center. Also, the Onset to treatment (OTT), Door to Puncture (DTP) time were compared with those in anterior circulation large vessel occlusion (ACLVO) group who underwent MT in the same time period. The factors associated with the delayed initiation of the MT were analyzed.

Results A total of 271 patients underwent mechanical thrombectomy at UCI Medical Center between Jan 2016 and June 2021. Of these, 32 patients diagnosed as BAO by CTA and underwent MT were included in the study. Successful reperfusion was achieved in 28 cases (87.5%), and symptomatic ICH occurred in 3 cases (9.4%). Nine patients (28.1%) showed good clinical outcomes (mRS 0–3) at 3 months. The median Onset to Puncture Time (OTT) was 340 min. The median DTP time (145 min) was significantly longer as compared to the ACLVO patients (99 min) (p value = 0.04). Of the 6 patients who showed significant delay in the initiation of intervention (DTP >300 min), 5 patients (83.3%) did not have the initial ‘stroke-code activation’ at the time of ED arrival. The cause of the delay was due to lack of cortical sign (3), bilateral spontaneous sustained clonus, which misinterpreted as seizure (1), AMS with non-focal neurological signs interpreted as encephalopathy (2).

Conclusion DTP of the patients who underwent MT for BAO was significantly longer than patients with ACLAO. The delayed activation of stroke code was associated with lack of cortical sings which are markers of ACLVO. Establishment of BAO screening in the ED assessment and prompt activation of Stroke code may contribute to the improvement of MT treatment for the BAO patients.


E-226 PRESENTATIONS AND ENDOVASCULAR VS. SURGICAL TREATMENT SELECTION OF INTRACRANIAL ANEURYSMS: A REAL-WORLD ASSESSMENT FROM THE NVQI-QOD CEREBRAL ANEURYSM REGISTRY

S Noorani, W Baulknight, A Abdalla, T Tejada, E Church, D Sahlein, J Howington, Ansari. Northwestern University Feinberg School of Medicine, Chicago, IL; Neurology, Northwestern University Feinberg School of Medicine, Chicago, IL; Radiology, Neurology, and Neurosurgery, Northwestern University Feinberg School of Medicine, Chicago, IL; Interventional Radiology and Radiology, Indiana University Health, Indianapolis, IN; Cerebrovascular Neurosurgery and Neurological Surgery, Penn State Health, Hershey, PA; Goodman Campbell Brain and Spine, Carmel, IN; Neurological and Spine Institute, Savannah, GA

10.1136/neurintsurg-2022-SNIS.337

Introduction ISAT and BRAT compared surgical and endovascular treatment modalities for ruptured aneurysms and provided limited information on presentations and demographics. However, these studies assessed predominantly small (<10mm) anterior circulation aneurysms and may not be generalized to all aneurysms. ISUIA analyzed effects of unruptured aneurysm size and location on rupture and treatment risks, but there is little data to support selection of endovascular versus surgical treatment. Furthermore, given the inconsistencies in aneurysm presentations, morphology, location, patient demographics, and rapidly improving endovascular and surgical technology, the