**E-137** ENDOVASCULAR THERAPY DELAY FOR ACUTE LARGE VESSEL OCCLUSION IS ASSOCIATED WITH WORSE FUNCTIONAL OUTCOME AND INCREASED MORTALITY


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Introduction The importance of early mechanical thrombectomy (MT) has shown to improve functional outcomes for patients with acute large vessel occlusion (LVO). As well, prior studies have shown that earlier MT resulted in reduced hospital stay, more home-time, and more desirable living situation in the 90 days after stroke.

Hypothesis We hypothesized that delay in MT in patients with LVO would result in worse clinical outcome and increased mortality.

Methods We performed a retrospective analysis of consecutive patients who underwent MT for LVO in a large academic comprehensive stroke center between 01/2018 and 05/2021. We compared outcomes including in-hospital mortality and 90-day modified Rankin Scale (mRS) based on time from door-to-puncture and door-to-reperfusion, adjusting for relevant covariates using logistic regression.

Results Patients that had shorter door-to-puncture time were found to have higher probability of a lower modified Rankin Scale (mRS 0–2) at discharge (p=0.03). Patients with door-to-puncture less than 60 minutes had a probability of 50% of achieving a good outcome. Longer door-to-puncture times were associated with lower probability of achieving mRS 0–2 at discharge. A similar finding was seen in patients that had shorter times to reperfusion (p=0.05). Adjusting for age, baseline NIHSS score, and final TICI score, delayed door-to-reperfusion time in minutes was an independent predictor of increased mortality at 90 days of 9% for every 10 minutes delay (OR 1.009, 95% CI 1.003–1.016, p=0.006). Every 10 minutes delay in door-to-reperfusion time had 7% higher chance of poor functional outcome at 90 days (OR 1.007, 95% CI 1.004–1.019, p=0.015).

Conclusion Shorter times to MT and reperfusion impact functional outcome and mortality in LVO stroke patients. This indicates that an adequate hospital protocol and continuous education may lead to faster and more efficient stroke activations leading to a shorter time to MT and eventual reperfusion. Goals of door-to-puncture must be established in order to achieve better outcomes.


**E-139** USE OF DRUG-ELUDING, BALLOON-EXPANDABLE RESOLUTE ONYX CORONARY STENT AS A NEW TREATMENT STRATEGY FOR VERTEBRAL ARTERY OSTIAL STENOSIS

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Introduction Extracranial vertebral artery stenosis is the second most common site of stenosis after carotid bifurcation accounting for a high risk of posterior circulation strokes. Due to the high smooth muscle strength, vertebral ostial stenosis is notoriously difficult to treat with high rates of restenosis following revascularization with stenting and angioplasty, along with stent kinking and breakage when using traditional bare metal stents. Given this unique nature of ostial stenosis, we intend to investigate the safety and efficacy of drug-eluding, balloon-expandable Resolute Onyx coronary stent.

Methods A prospectively maintained database was retrospectively searched for consecutive patients diagnosed with vertebral artery ostial stenosis who underwent stenting and angioplasty between January 1, 2015 and January 1, 2022.
Patients’ demographic characteristics (age, sex, race, and comorbidities), clinical (presenting NIHSS for stroke patients) and radiographic (DSA) presentation, and time from symptom onset to treatment were recorded. Occlusion location, degree of stenosis, contralateral disease, and devices used was also noted along with intra-, and post-procedural complications, as well as clinical outcomes. Outcome assessment was based on any new or recurrent stroke, TIA, or intracerebral hemorrhage (ICH) within the first 72 hours post-procedure. Patients were followed-up both clinically and with radiologic imaging with either CT or MR angiography for any in-stent stenosis and patency.

**Results** Twenty-six patients were included in our study (21 male [80.8%]; mean age 70.3 years [SD ±9.6]). Hypertension was the most common comorbidity (16/26; 61.5%) with hyperlipidemia found in 13 cases (50%). Most common patient presentation was transient ischemic attack (TIA) (11/26; 42.3%) and stroke (10/26; 38.5%). Five patients (19.2%) were found to have incidental vertebral artery ostial stenosis and hence were categorized as asymptomatic. Mean degree of stenosis was 74.9% (Range 50 - 100%). One (3.8%) intra-procedural complication was encountered whereby the stent failed to open despite several attempts. No in-hospital post-procedure stroke or mortality was reported. On follow-up, 2 patients developed symptomatic in-stent restenosis that was treated with balloon angioplasty in both cases.

**Conclusion** We report the first clinical series investigating the use of drug-eluding, balloon-expandable Resolute Onyx coronary stent as a safe, efficacious, and durable treatment option for both symptomatic and asymptomatic vertebral ostial stenosis.

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**E-140** NOVEL GRADING SCALE FOR EMBOLIZATION OF MIDDLE MENINGEAL ARTERY FOR CHRONIC SUBDURAL HEMATOMA- INTER-RATER RELIABILITY STUDY

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**Background and Purpose** Embolization of middle meningeal artery (EMMA) is a relatively new treatment for chronic subdural hematoma (CSDH). To date, an objective method that assesses or describes the extent of EMMA for the treatment of CSDH does not exist. Recently, the concept of a novel grading scale for EMMA in patients with CSDH has emerged. However, this has not been applied to a clinical case setting and inter-rater reliability has not yet been studied. The purpose of this study was to validate the grading scale in clinical practice and to assess for inter-rater reliability.

**Materials and Methods** We retrospectively examined consecutive patients who underwent EMMA for CSDH. Patients were included if the whole head angiogram from common carotid, as well as external carotid arteries before and after EMMA were available in the arterial, capillary as well as venous phases. Two independent readers, each with more than 5 years of experience in independent practice, assessed the angiograms for the grading of EMMA and assigned a score ranging between 0 to 3. The grading score between the two readers were compared using Cohen Kappa score to assess the inter-rater reliability.