

following initiation of internal quality improvement (QI) initiative at St Louis University Hospital (SLUH).

Materials and Methods All patients who received IV-tPA or MT at SLUH from December 2016 to May 2018 and July 2018 to December 2019 were included in this study and dichotomized into 'Pre-intervention' and 'Post-intervention' groups. Chart review data including patient demographics, arrival method, and risk factors were collected retrospectively. In addition, relevant times were collected which included time of ED arrival, time of NIHSS, time of CT acquisition, time of tPA bolus, time of groin puncture, and time of recanalization. NIHSS at discharge and complications of therapy were also collected.

Results For those receiving tPA, mean time to NIHSS was similar in the pre- and post-intervention groups, 4.28 minutes and 3.88 minutes, respectively ($t=0.25$, $p=0.80$); mean time to CT acquisition was also similar, 11.28 minutes and 12.53 minutes ($t=-0.53$, $p=0.60$). However, mean time for DTN decreased from 42.52 minutes to 33.87 minutes following the quality improvement initiative ($t=2.29$, $p=0.02$). tPA post-intervention patients were less likely to have asymptomatic ICH ($\chi^2=6.22$, $p=0.01$) and less likely to have other complications ($\chi^2=4.66$, $p=0.03$). For those receiving MT, mean time to NIHSS similar in both groups, 3.81 minutes compared to 5.55 minutes in the post-intervention group ($t=-0.66$, $p=0.51$); mean time to CT acquisition was 10.53 minutes compared to 12.23 minutes ($t=-0.52$, $p=0.60$). DGPT decreased from 101.81 minutes to 75.91 minutes ($t=3.48$, $p=0.001$) and mean time to recanalization decreased from 176.89 minutes to 109.74 minutes ($t=6.68$, $p<0.001$). In the MT group, no significant differences were found in complication rates between the pre- and post-intervention groups.

Conclusion Our internal QI Initiative to improve workflow latencies in the Code Stroke Protocol resulted in statistically significant reductions in DTN and DPGTs.

Disclosures V. Chin: None. K. Yeboah: 5; C; Saint Louis University. A. Balushi: None. A. Guthrie: 5; C; Saint Louis University. K. Christopher: 5; C; Saint Louis University. R. Edgell: 5; C; Saint Louis University.

E-069

PREVENTABILITY OF STROKE DUE TO LARGE VESSEL OCCLUSION TREATED WITH MECHANICAL THROMBECTOMY

¹S Suzuki*, ¹B Nguyen, ¹I Yuki, ¹J Xu, ²M Fisher. ¹Neurological Surgery, University of California Irvine, Orange, CA; ²Neurology, University of California Irvine, Orange, CA

10.1136/neurintsurg-2020-SNIS.105

Background and Objective Mechanical Thrombectomy (MT) is standard treatment for acute ischemic stroke due to large vessel occlusion (LVO). However, extent of preventability of these strokes is generally not addressed. This study analyzes stroke preventability for patients treated with MT for LVO.

Subjects and Methods We conducted retrospective analyses of stroke patients treated with MT for LVO at UC Irvine Medical Center from June 2008 to March 2019. We obtained data including age, NIH Stroke Scale (NIHSS) at onset, and (beginning in 2015) 90-day outcome measured by modified Rankin Scale (mRS). We used the Stroke Preventability Score (SPS, 0–10 points) from our prior work (JAMA Neurology 2016, 73:186), based on how well patients had been treated given

their hypertension, hyperlipidemia, atrial fibrillation, and prior stroke history. We examined associations of SPS with age, NIHSS at onset, and mRS.

Results For 301 patients treated with MT for LVO, mean \pm standard error of age was 60 ± 0.1 years (range 18–97) and NIHSS was 17 ± 0.4 (range 0–37, $n=282$); one-third ($n=96$) were male. SPS was calculated for 273 patients, with mean \pm SE 2.1 ± 0.1 (range 0–8). Over two-thirds ($n=184$, 67%) demonstrated some degree of preventability (SPS 1 or higher), while 23% ($n=64$) showed high stroke preventability (SPS 4 or higher). Among those with high SPS, atrial fibrillation with no treatment was seen in 54 (85.7%) patients. Among 119 patients with mRS data, stroke preventability was associated with age (66 ± 2.5 , 69 ± 2.4 and 79 ± 1.7 years for no, low and high SPS, respectively; $p<0.002$). Stroke preventability was also associated with NIHSS at onset (15 ± 1.3 , 16 ± 0.9 , and 20 ± 1.4 for no, low and high preventability, respectively; $p<0.04$). SPS was significantly correlated with age ($r=0.33$, $p<0.0002$), NIHSS ($r=0.29$, $p=0.002$), and mRS ($r=0.22$, $p=0.02$). The partial correlation coefficient for SPS remained significant after adjusting for age and NIHSS.

Conclusion Nearly one-quarter of patients, with LVO treated with MT, presented with strokes that were highly preventable. High stroke preventability tended to be seen in older patients, patients with more severe deficits, and (to a lesser extent) patients with poor outcome. Severe LVO strokes with the worst outcome (post-mechanical thrombectomy) tended to be the most preventable strokes. While most acute stroke treatment efforts focus on streamlining workflow, these findings demonstrate the enduring importance of stroke prevention in this patient population. These findings raise the question whether resources for treatment of acute stroke are being directed toward patients whose strokes are the most preventable.

Disclosures S. Suzuki: None. B. Nguyen: None. I. Yuki: None. J. Xu: None. M. Fisher: None.

E-070

ENDOVASCULAR TREATMENT OF THE VERTEBRAL ARTERY ORIGIN STENOSIS BY USING THE CLOSED-CELL, SELF-EXPANDABLE CAROTID WALLSTENT

¹J KO*, ²T Lee. ¹Neurosurgery, Pusan National University Hospital, Busan, Korea, Republic of; ²Diagnostic Radiology, Pusan National University Hospital, Busan, Korea, Republic of

10.1136/neurintsurg-2020-SNIS.106

Background Endovascular treatment has been considered a good alternative to surgery for symptomatic vertebral artery origin stenosis (VAOS) due to the high risk of morbidity associated with surgery. The purpose of this study was to evaluate the feasibility and efficacy of insertion of the closed-cell, self-expandable Carotid Wallstent for treatment of VAOS.

Methods The records of 72 patients with VAOS refractory to adequate medication who were treated by endovascular treatment with the Carotid Wallstent from December 2004 to November 2010 were retrospectively evaluated.

Results Of the 72 patients, 43 presented with transient ischemic attacks. Forty-seven patients (65.3%) manifested other brachiocephalic stenoses; of these, 40 patients had occlusion, hypoplasia, or stenosis of the contralateral vertebral artery. Overall technical success (defined as 20% or less residual stenosis) was 100%. Procedure-related complications ($n=8$,

11.1%) included sudden asystole (n=1), acute in-stent thrombosis (n=3), minor stroke (n=3), and stent shortening (n=1). All complications were resolved without permanent neurological deficit. Angiographic follow-up (mean, 13.0 months) was achieved in 49 patients and revealed in-stent restenosis in 1 patient (2.0%) and stent malposition by shortening in 2 patients (4.1%). No stent fracture occurred in any of the patients on follow-up angiography. All patients were neurologically stable at clinical follow-up.

Conclusions Endovascular treatment of symptomatic VAOS using the closed-cell, self-expandable Carotid Wallstent is technically feasible and effective in alleviating patient symptoms and for improving vertebrobasilar blood flow.

Disclosures J. Ko: None. T. Lee: None.

E-071

INSTITUTIONAL TREATMENT PRACTICES FOR CENTRAL RETINAL ARTERY OCCLUSION: A RETROSPECTIVE SINGLE-CENTER ANALYSIS PROVIDING INSIGHT TOWARDS MULTI-DISCIPLINARY TREATMENT OF 'EYE STROKE'

K Lee*, S Coffman, C Tschoe, K Fargen, S Wolfe. *Neurosurgery, Wake Forest School of Medicine, Winston-Salem, NC*

10.1136/neurintsurg-2020-SNIS.107

Introduction Central retinal artery occlusion (CRAO) is an ophthalmologic emergency that can result in permanent, devastating vision loss. Timing and use of interventions such as ocular digital massage, anterior chamber paracentesis, acetazolamide, topical beta-blockers, and thrombolysis have unclear efficacy and guidelines in the literature, and over 25% of CRAO are associated with cerebral ischemia. In the advent of intra-arterial treatment algorithms for stroke, there may be new opportunities to treat CRAO in an emergent, multidisciplinary approach similar to that of ischemic stroke to improve outcomes. This study examines the institutional practices at Wake Forest Baptist Medical Center (WFBMC) in an effort to establish a formalized approach to treatment of CRAO.

Methods This is a retrospective review including patients who were diagnosed or treated for acute non-arteritic (NA) CRAO from January 2017 to January 2019 at WFBMC. Time to presentation, services consulted for evaluation of patients with CRAO, standard stroke work-up carried out during the admission, treatments implemented specifically for the diagnosis of CRAO, and complications from treatment were recorded. Descriptive statistics were utilized.

Results Of 144 patients who were seen at WFBMC for CRAO during this timeframe, we identified 64 patients who received initial diagnostics and management for acute NA-CRAO. The cohort was 65.6% male, and the average age was 66.4 years. The most frequent comorbidity was hypertension (67.2%), with current or former smoking as the second most frequent comorbidity (62.5%). 18.8% of patients presented within 4 hours of symptoms, 39% presented between 4 and 24 hours, and 42.2% of patients presented greater than 24 hours after symptom onset. Ophthalmology, neurology stroke, and neurosurgery were consulted in 76.6%, 75%, and 10.9% of cases, respectively. Overall workup included CT (32.8%), MRI (70.3%), CTA or MRA (48.4%), visual acuity (82.8%), fundoscopic exam (84.8%), ocular pressures (78.1%), carotid doppler (67.2%), transthoracic

echocardiogram (79.7%), CBC (84.4%), lipid panel (70.3%), A1C (68.6%), ESR (64.1%), and CRP (62.5%). 10.9% of patients had finding of acute stroke on MRI, and an additional 3.1% were diagnosed with transient ischemic attack. Ipsilateral internal carotid artery stenosis \geq 50% was found in 21.9% of patients. 59.4% of patients did not receive any treatment for CRAO (ocular digital massage, anterior chamber paracentesis, acetazolamide, etc.), and 43.8% of patients did not receive any escalation in home antiplatelet or anticoagulation regimen. Patients had a more complete workup and treatment when they presented within 24 hours of symptom onset.

Conclusions The management of acute CRAO is inconsistent and usually errs on the side of conservative management at our institution. Given the similarities to stroke and the significant number of patients with concomitant stroke risk factors and symptoms, multidisciplinary stroke algorithms should be considered for this disease. At our institution, we will begin a randomized, controlled trial for CRAO 'eye stroke' to mirror recent protocols in stroke care that allow for rapid mobilization and multidisciplinary treatment of patients. This will help streamline patient care and ensure that each patient receives all available and indicated therapies for maximum preservation and return of visual acuity.

Disclosures K. Lee: None. S. Coffman: None. C. Tschoe: None. K. Fargen: None. S. Wolfe: None.

E-072

EMBOLIZATION OF TRAUMATIC CAROTID-CAVERNOUS FISTULA VIA DIRECT PERCUTANEOUS PUNCTURE OF THE SUPERIOR OPHTHALMIC VEIN: A CASE REPORT

D Kim*, S Ha. *Neurosurgery, Chosun Univ. Hospital, Gwangju Metropolitan City, Korea, Republic of*

10.1136/neurintsurg-2020-SNIS.108

Endovascular treatment of Carotid-cavernous fistulas (CCFs) can be challenging if typical transvenous routes are inaccessible. We describe a case of a traumatic direct carotid-cavernous fistula in which transvenous embolization via the inferior petrosal sinus (IPS) was failed. An embolization of CCF via direct percutaneous puncture of the superior ophthalmic vein (SOV) was done successfully.

Disclosures D. Kim: None. S. Ha: None.

E-074

CORRELATION OF BASELINE NLR AND CTP IMAGING IN SELECTED PATIENTS WITH LARGE VESSEL OCCLUSION ISCHEMIC STROKE

M Aly*, R Abdalla, M Hurley, A Shaibani, S Ansari. *Intervention Radiology, Northwestern University, Chicago, IL*

10.1136/neurintsurg-2020-SNIS.109

Purpose Many pieces of evidence in the literature suggest that Neutrophils-Lymphocytes ratio (NLR) can be used as an inexpensive biomarker to assess the degree of inflammation for multiple diseases including cancer, coronary artery disease, metabolic syndrome, and sepsis. Cerebral infarction leads to an inflammatory response, ischemic tissue release proinflammatory chemokines which activates leukocytes and enhance their trans-endothelial migration to the site of inflammation.