

E-107 CAROTID ARTERY STENTING IN PATIENTS WITH SYMPTOMATIC NON-STENOTIC CAROTID ARTERY DISEASE – A CASE SERIES

S Nedelcu*, A Kuhn, J Singh, A Puri. *Interventional Neuroradiology, University of Massachusetts Medical School, Worcester, MA, USA*

10.1136/jnis-2023-SNIS.207

Introduction Symptomatic non-stenotic carotid (SyNC) disease accounts for about 20-30% of the unilateral anterior circulation embolic appearing strokes of undetermined source. SyNC classification includes: luminal stenosis <50% and atherosclerotic plaque with at least one high-risk feature (diameter >3.0 mm, presence of ulceration or intra-plaque hemorrhage). While randomized control trials have not supported revascularization of patients with stenosis of <50% by carotid endarterectomy (CES) or carotid stenting (CAS), recent guidelines have brought attention to high-risk plaque characteristics which play a major influence in predicting the risk of plaque rupture and may be more important than the degree of narrowing. In this case series we analyzed the safety and outcomes of patients treated with CAS who present with acute anterior circulation stroke symptoms and ipsilateral SyNC with high-risk plaque features.

Material and Methods This is a single center retrospective case series. We screened 5677 consecutive patients who presented with acute stroke symptoms to our stroke center between 2013 and 2022. 954 patients underwent emergent endovascular intervention. 137 patients underwent carotid stenting. 5 patients underwent carotid stenting for SyNC. Diagnosis of SyNC was made by a vascular neurologist based on non-invasive imaging techniques, after ruling out other sources of embolization. Plaque characteristics and degree of stenosis were analyzed on pre-procedure CTA, as well as on subsequent cerebral angiogram. Patient demographics, vascular risk factors, as well as outcomes of the procedure, complications, 90-day mRS and recurrent strokes were recorded.

Results 5 patients were included in the analysis. Average age was 76. Patients presented with NIHSS ranging from 1 to 6. All patients had high risk features on pre-procedure CTA: irregular plaque with concern for ulceration, and two had concern for adjacent floating thrombus. Average stenosis based on cerebral angiogram was 36%. 80% patients were on aspirin and statin prior to their acute presentation. Procedures were performed under general anesthesia or monitored anesthesia care, and all involved the use of a cerebral protection device. Procedural success was 100%. There were no peri-procedural complications. One patient died at 3 months due to underlying metastatic ovarian cancer, but remained neurologically at baseline. All other patients had mRS 0-1 at 3 months. No patients had recurrent stroke events in the revascularized carotid territory at 3 months.

Conclusions In this case series performed over a 10-year period at a high-volume stroke center we show that CAS is safe and efficient in patients with SyNC. Previous studies have established safety and effectiveness of CES in patients presenting with SyNC, however there is a paucity of reports in the literature regarding the effect of CAS in this patient population. Recent guidelines have brought specific attention to high-risk plaque characteristics which suggest that plaque instability plays a major role in the onset of ischemic events, regardless of lumen narrowing. Advanced imaging techniques, such as Optical Coherence Tomography, could help further characterize plaque vulnerability. Despite the small number of

included patients, this case series could serve as preliminary data for further clinical studies necessary to determine the role of CAS in SyNC patients.

Disclosures S. Nedelcu: None. A. Kuhn: None. J. Singh: 2; C; Medtronic. A. Puri: 2; C; Medtronic, Stryker, Cerenovus, Microvention, Agile, QApel, Arsenal, Imperative Care.

E-108 ENDOVASCULAR TREATMENT OF PATIENTS WITH ACUTE ISCHEMIC STROKE DUE TO UNDERLYING ARTERIAL DISSECTION: A NATIONWIDE ANALYSIS

¹M Brandel*, ¹C McCann, ¹A Wali, ²V Wu, ¹S Esmail, ¹J Steinberg, ¹S Olson, ¹J Pannell, ¹A Khalessi, ¹D Santiago-Dieppa. ¹Neurosurgery, UCSD, La Jolla, CA, USA; ²Neurology, UCSD, La Jolla, CA, USA

10.1136/jnis-2023-SNIS.208

Introduction Cervical arterial dissections are important causes of ischemic stroke. However, the outcomes of carotid artery (CA) versus vertebral artery (VA) dissections have not been previously compared, nor has the impact of endovascular intervention been studied, on a nationwide level.

Methods Ischemic stroke admissions in the National Inpatient Sample (NIS) from 2016-2019 were retrospectively analyzed. Patient characteristics, presence and site of cervical arterial

Abstract E-108 Table 1 Comparison of clinical characteristics and outcomes among patients presenting with acute ischemic stroke due to carotid or vertebral artery dissections

| Characteristic | Vertebral Artery Dissection, N = 2,562 | Carotid Artery Dissection, N = 2,789 | p-value ¹ |
|--|--|--------------------------------------|----------------------|
| Age (years), Mean (SD) | 53 (17) | 57 (17) | <0.001 |
| Female, n (%) | 1,027 (40%) | 1,151 (41%) | 0.4 |
| Traumatic Brain Injury, n (%) | 39 (1.5%) | 89 (3.2%) | <0.001 |
| APR-DRG Mortality Risk Score, Mean (SD) | 2 (1) | 2 (1) | 0.2 |
| APR-DRG Illness Severity Score, Mean (SD) | 2 (1) | 2 (1) | 0.6 |
| Treatment | | | |
| Thrombolytic Treatment, n (%) | 169 (6.6%) | 349 (13%) | <0.001 |
| Mechanical Thrombectomy, n (%) | 126 (4.9%) | 539 (19%) | <0.001 |
| Stent placement, n (%) | 57 (2.2%) | 353 (13%) | <0.001 |
| Comorbidities | | | |
| Hypertension, n (%) | 1,364 (53%) | 1,439 (52%) | 0.2 |
| Diabetes Mellitus, n (%) | 563 (22%) | 594 (21%) | 0.5 |
| Chronic Kidney Disease, n (%) | 160 (6.2%) | 236 (8.5%) | 0.002 |
| Congestive Heart Failure, n (%) | 128 (5.0%) | 205 (7.4%) | <0.001 |
| Inpatient Complications and Outcomes | | | |
| Intracerebral/Subarachnoid Hemorrhage, n (%) | 145 (5.7%) | 313 (11%) | <0.001 |
| Length of Stay (Days), Median (IQR) | 4 (2, 8) | 5 (3, 10) | <0.001 |
| Total Charges (\$), Median (IQR) | 54,110 (30,297, 110,062) | 93,485 (43,406, 199,121) | <0.001 |
| Adverse Discharge, n (%) | 1,402 (55%) | 1,842 (66%) | <0.001 |

¹ Wilcoxon rank sum test; Pearson's Chi-squared test