**Evaluating Bruch’s Membrane in the Management of Idiopathic Intracranial Hypertension**

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Venous sinus stenting (VSS) for idiopathic intracranial hypertension (IIH) has been demonstrated to achieve significant symptom improvement while harboring a low peri-interventional morbidity profile. Comprehensive neuro-ophthalmological monitoring represents a cornerstone of disease monitoring. Bruch’s membrane is the innermost membrane of the choroid of the eye. It is assessed by optical coherence tomography (OCT) and is currently used as a tool to help manage patients suffering from glaucoma. The value of assessing Bruch’s membrane in IIH requires further exploration. Twenty-one patients with IIH who underwent VSS between 04/2018 and 04/2022 were retrospectively reviewed. Clinical and radiological were analyzed. Neuro-ophthalmological data included visual acuity, visual fields, funduscopy categorized via Frisén scale, and OCT obtained both Bruch’s membrane. Bruch’s membrane and RNFL thickness were recorded pre-VSS as a baseline and post-VSS at post-operative days 1, 30, 90, 180. After TSST, manometry showed a significant reduction of maximum transverse sinus pressures and trans-stenotic gradient pressures. Chronic headaches, visual disturbance, and pulsatile tinnitus improved significantly. The OCT calculated RNFL thickness significantly decreased in all patients. Stratification according to a minimal-low degree (Frisén 1–2) and moderate-marked degree (Frisén 3–4) papilledema demonstrated a significant reduction of RNFL thickness in both groups. Bruch’s membrane analysis correlated with OCT findings and clinical follow-up. Venous sinus stenting provides favorable clinical and neuro-ophthalmological outcomes. This study demonstrates that neuro-ophthalmologic testing augmented with OCT and Bruch’s membrane evaluation provides objective data that can be used as a biomarker for treatment success for managing patients with different extents of papilledema and may inform patient management.

**Disclosures**

O. Goren: None.

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**CATHETER BLOOD VESSEL RATIO FOR MIDDLE CEREBRAL ARTERY OCCLUSIONS REQUIRING MECHANICAL THROMBECTOMY: A PROPENSITY ADJUSTED ANALYSIS**


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Background: Mechanical thrombectomy is considered a gold standard procedure for the management of large vessel occlusions in the acute stroke setting. There are currently no guidelines present to select optimal catheter diameter, and such decisions are based on surgeon preference and experience. In this study, we seek to determine whether catheter-blood vessel-ratio (CVR) is predictive of reperfusion and patient outcomes including post-procedure intracerebral hemorrhage (ICH) for patients undergoing mechanical thrombectomy.

**Methods**

A retrospective analysis was performed of all patients with a proximal middle cerebral artery (M1) occlusion at a large comprehensive stroke center who underwent a mechanical thrombectomy from 1/2020 to 6/2021. Study included patients with an available pre-intervention axial CTA in which cross-sectional diameter was measured of the occluded M1 proximally. An aspiration catheter outside diameter and vessel cross-sectional diameter ratio (CVR) was calculated. Patients were grouped and compared based on a CVR threshold of 0.9. Additional data extracted for analysis included: demographics, occlusion characteristics, intraoperative and post-operative management, and in-hospital and discharge outcomes. Univariate statistics used Welch’s two-sample t-test for continuous data and chi-squared test for frequency-based variables. Multivariate analysis used multivariate linear and Firth’s logistic regression. A propensity-score adjustment was used consisting of age, gender, admission NIHSS, ASPECT score, prior anti-coagulation, or anti-platelet use, TPA usage, and systolic blood pressure.

**Results**

During the 19-month study period, 60 patients met inclusion criteria with 25 patients (42%) found to have CVR ≥0.9 (vs 35% (58%) with CVR < 0.9). There was no difference between cohorts in demographics or patient presentation on univariate analysis. Of the 25 patients with a CVR ≥0.9, 8% (N=2) had >2 passes compared to 20% (N=7 of 35) in the CVR < 0.9 cohort (p=0.22). Puncture to revascularization time, admission NIHSS, and discharge NIHSS

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**References**


**Disclosures**

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BLUNT CEREBROVASCULAR INJURY DIAGNOSIS: THE LIMITATIONS OF COMPUTED TOMOGRAPHY ANGIOGRAPHY AND THE USE OF CONFIRMATORY DIGITAL SUBTRACTION ANGIOGRAPHY

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Abstract E-256

A1–A248

Introduction CT angiography (CTA) is a valuable tool used to screen trauma patients for blunt cerebrovascular injury (BCVI) to provide timely diagnosis and avoid the morbidity associated with these injuries. BCVI has been reported as a cost-effective and non-invasive diagnostic tool; however, high false positive rates for diagnosis of BCVI are a core limitation and may lead to unnecessary use of antithrombotic medications. No formal recommendations exist regarding the use of digital subtraction angiography (DSA) in confirming the diagnosis of BCVI although preliminary reports support its utility. This study aims to provide further evidence of the limitations of CTA in diagnosing BCVI and supports the use of confirmatory DSA in select patients with BCVI diagnosed on CTA.

Methods A retrospective review of patients diagnosed with BCVI between 2020–2022 at a single level 1 trauma center was completed. BCVI grade was determined based on CTA findings and confirmatory DSA was subsequently performed in patients to determine BCVI grade. Demographic information, mechanism of injury, neurologic symptoms, indication for BCVI screening, serum creatinine, and treatment of BCVI were collected. Positive predictive value (PPV) by vessel injured and BCVI grade were determined and compared.

Results A total of 18 patients with 26 BCVIs were included in this study. Nineteen (73%) vertebral artery (VA) injuries and 7 (27%) internal carotid artery (ICA) injuries were diagnosed on CTA (Table). The most common indication for BCVI screening was cervical spine injury (89%). Average BCVI grade diagnosed on CTA was 1.7, which was not statistically different from grade diagnosed on DSA (2.3; p=0.947). Compared with DSA grade, CTA grade was lower in one patient (1 vs. 3) and higher in 2 patients (4 vs. 2) with confirmed BCVI. Overall PPV for CTA was 35%, with PPV being the highest for grade 4 injuries (100%), which was significantly higher than the PPV for grade 1 (18%) and grade 3 injuries (0%) (p<0.001 and p=0.025, respectively). PPV was not significantly different for BCVI diagnosed in VA compared with ICA (42.1% vs 14.3%, p=0.186). There were no complications related to performing DSA. A significant reduction in serum creatinine occurred following DSA compared with before and after CTA; (p=0.003 and p=0.029, respectively).

Discussion The data presented in this series support prior reports of high false positive rate of CTA in diagnosing BCVI. The PPV was highest for grade 4 injuries and lowest for grade 1 and 3 injuries, and CTA had a higher PPV in VA injuries compared with ICA injuries. Despite these findings, the high false positive rate may result in unnecessary antithrombotic therapy. This study adds to the growing body of literature in support of confirmatory DSA in select patients with BCVI diagnosed on CTA.

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