probabilities using $1/(1+(\exp(-index)))$. This yielded a specificity of 97.7% when tested against this population.

Conclusions: A formula incorporating PSV, EDV and ratio produced a very high specificity of duplex ultrasound for the prediction of carotid artery stenosis. It is suggested that this tool be used in conjunction with current duplex criteria to increase testing accuracy. This tool may help to identify those asymptomatic patients who may benefit from continued medical therapy over surgical intervention.

Author Disclosures: A. Carnicelli: Nothing to disclose; **A. Chandra:** Nothing to disclose; **A. J. Doyle:** Nothing to disclose; **J. L. Ellis:** Nothing to disclose; **N. J. Gargiulo:** Nothing to disclose; **D. L. Gillespie:** Nothing to disclose; **S. J. Hislop:** Nothing to disclose; **J. Kim:** Nothing to disclose; **M. Singh:** Nothing to disclose; **J. J. Stone:** Nothing to disclose

PS62.

Cross-Sectional Area for the Calculation of Carotid Artery Stenosis on CT Angiography

Jonathan J. Stone, Adam J. Doyle, Anthony Carnicelli, Sean J. Hislop, Michael Singh, Jason Kim, Jennifer L. Ellis, Nicholas J. Gargiulo, David L. Gillespie, Ankur Chandra. University of Rochester, Rochester, NY

Objectives: The use of cross-sectional area on CT angiography (CTA) for the calculation of carotid artery stenosis has been suggested but not yet validated in a large population. The objective of this study was to determine whether CTA-derived cross-sectional area was able predict carotid stenosis with a level of confidence similar to traditional NASCET measurements.

Methods: A retrospective review was performed for all patients who underwent both carotid duplex ultrasound and CTA between 2000 and 2009. Vessel diameters and cross-sectional area measurements were made and ultrasound velocities were recorded. Percent stenosis was calculated using the NASCET technique with both diameter and cross-sectional area. Receiver operating characteristic curves were created for both stenosis groups using Strandness ultrasound criteria as a surrogate for true stenosis.

Results: A total of 610 vessels were analyzed and used to create ROC curves. In the diameter-based stenosis group, area under the curve was 0.961 for 80-99% and 0.795 for 50-80% stenosis. For cross-sectional area derived percent stenosis, the area under the curve was 0.946 for 80-99% and 0.803 for 50-80% stenosis. Furthermore, the correlation coefficient between diameter and cross-sectional area derived stenosis was 0.987.

Conclusions: Using cross-sectional area to calculate percent stenosis on CTA yields similar ROC curves as traditional NASCET methods. This confirms that the two-dimensional NASCET technique can accurately classify stenosis even though vessels are often irregularly shaped. Clinical studies are needed to determine if there is any role for cross-sectional area in the prediction of stroke.

Author Disclosures: A. Carnicelli: Nothing to disclose; **A. Chandra:** Nothing to disclose; **A. J. Doyle:** Nothing to disclose; **J. L. Ellis:** Nothing to disclose; **N. J. Gargiulo:** Nothing to disclose; **D. L. Gillespie:** Nothing to disclose; **S. J. Hislop:** Nothing to disclose; **J. Kim:** Nothing to disclose; **M. Singh:** Nothing to disclose; **J. J. Stone:** Nothing to disclose.

PS64.

A Comparison of Carotid Endarterectomy and Carotid Artery Stenting in Patients Undergoing Cardiac Surgery

Paul J. Foley[1], Grace J. Wang[1], Edward Y. Woo[1], Jeffrey P. Carpenter[2], Michael A. Acker[1], Joseph Woo[1], Ronald M. Fairman[1], Benjamin M. Jackson[1]. [1]Surgery, University of Pennsylvania, Philadelphia, PA; [2]Robert Wood Johnson Medical School, Camden, NJ

Objectives: The examine perioperative stroke and death rates for 2 methods of carotid artery revascularization, angioplasty/stenting (CAS) and endarterectomy (CEA), in patients undergoing cardiac surgery.

Methods: Patients undergoing carotid revascularization prior to or simultaneous with a cardiac surgical procedure at a university hospital between January 2003 and October 2011 were identified. Medical records were retrospectively reviewed for demographics, comorbidities (including hypertension, diabetes, chronic renal insufficiency, COPD, and CHF), type of carotid revascularization, and outcomes. Stroke, death, and their combined endpoint (CE) were defined as the primary outcomes. Comorbidities and outcomes were compared between groups using Fisher Exact Tests.

Results: 52 CEAs, 28 CASs and 6 diagnostic carotid arteriograms (DCA) were performed in patients undergoing cardiac surgery, either in combination (48 CEAs), the same day (1 CAS), or preoperatively (4 CEAs, 27 CASs, 6 DCAs). There were no statistically significant differences between the CAS and CEA groups with respect to comorbidities. Compared to patients undergoing CAS, those undergoing CEA had lower rates of stroke (1.9% vs 3.6%, $P=1$), death (5.8% vs 10.7%, $P=.65$), and the CE (7.7% vs 14.3%, $P=.44$), but none of these differences reached statistical significance. Similarly, if those undergoing DCA were considered separately or together with the CAS group, no significant difference in primary outcomes was evident. Four patients (7.7%) had procedure-specific complications in the CEA group (2 CN palsies; 2 neck hematomas). There were no access site pseudoaneurysms in the CAS/DCA patients.

Conclusions: Both CEA and CAS are viable options for carotid revascularization prior to heart surgery. Though a larger experience might reveal statistically-significant differences in outcomes, surgeon preference (and willingness to perform cardiac surgery on clopidogrel) may determine preferred strategy.

Author Disclosures: M. A. Acker: Nothing to disclose; **J. P. Carpenter:** Nothing to disclose; **R. M. Fairman:** Nothing to disclose; **P. J. Foley:** Nothing to disclose; **B. M. Jackson:** Nothing to disclose; **G. J. Wang:** Nothing to disclose; **E. Y. Woo:** Nothing to disclose; **J. Woo:** Nothing to disclose.