carotid plaque surface (smooth, irregular, ulcerated), NIHSS group score before surgery (0 or TIA, 1-3, 4-6, ≥7) and presence of ischemic lesions at preoperative CT scans for analysis. Significance threshold was set at P<.05.

Results: Eighty-three patients out of 203 presented preoperative ischemic brain lesions (40.9%). In 48.3% of patients an irregular plaque surface was recorded, in 41.8% a ulcerated surface and in 9.9% a smooth surface. At between NHISS 1-3 group score before surgery (0 or TIA, 1-3, 4-6, ≥7) and presence of preoperative brain ischemic lesions, particularly in NIHSS 1-3 group patients (P = .08).

Conclusions: Aside from stenosis percentage, neurological transient and permanent brain symptoms are highly related to carotid plaque surface. Ulcerated carotid plaque surface can be responsible for plaque’s micro-debris embolization or fresh thrombus formation whose brain damage mechanisms can lead to different neurological symptoms and CT scans findings.

Author Disclosures: L. Capoccia: Nothing to disclose; A. Esposito: Nothing to disclose; P. Fiorani: Nothing to disclose; I. P. Renzi: Nothing to disclose; E. Sbarigia: Nothing to disclose; F. Speziale: Nothing to disclose.

PS54.

Risk Scoring System to Predict Three-Year Survival in Patients Treated for Asymptomatic Carotid Stenosis

Francisco Alcocer, Marjan Mujib, Jeffrey Horn, Marc A. Passman, Mark A. Patterson, Thomas C. Matthews, William D. Jordan. Surgery, University of Alabama at Birmingham, Birmingham, AL

Objectives: To identify risk factors compromising 3 years survival in treated patients with asymptomatic carotid disease in complying with recently updated guidelines from the Society for Vascular Surgery.

Methods: Outcomes of 504 patients who underwent carotid intervention for asymptomatic carotid disease in 10 years (1999-2008) were analyzed. Hospital computerized medical records were reviewed. Social Security Death Index was queried for mortality. Patients lost to follow up before 3 years post procedure were excluded. After multivariable Cox regression analysis was done, a score was assigned for each risk factor (RF): hazard ratio (HR) 1.5-2.0 = RF 1; HR 2.1-3.0 = RF 2; HR 3.1-4.0 = RF 3. Then a Kaplan Meier plot analyzed survival differences.

Results: Fifteen percent of the patients did not survive beyond 3 years post procedure. Age ≥ 80 years (HR 2.0, P = .01, RF = 1), Chronic obstructive pulmonary disease (HR 3.6, P = .001, RF = 3), Chronic kidney disease (CKD) stage 3 (HR 2.0 P = .07, RF = 1), CKD stage 4 (HR 3.3, P = .04, RF = 3), Coronary artery disease (HR 2.46, P = .001, RF = 2) and Diabetes Mellitus (HR 1.8, P = .02, RF = 1) negatively influenced 3 year survival.

Thirty days mortality rate was 0.9% and was not influenced by score values; however, a cumulative score < 3 was associated with 3 year survival of 93%.

Conclusions: Despite low 30 day mortality rate, increasing risk factors are associated with decreased 3 year survival. This finding may impact clinical decision for management of asymptomatic carotid disease.

Author Disclosures: F. Alcocer: Nothing to disclose; J. Horn: Nothing to disclose; W. D. Jordan: Nothing to disclose; T. C. Matthews: Nothing to disclose; M. Mujib: Nothing to disclose; M. A. Passman: Nothing to disclose; M. A. Patterson: Nothing to disclose.

PS56.

Impact of Distal Protection Filter Design in Thirty-Day Outcomes of Carotid Artery Stenting

Natasha Loghmanpour1, Gail Sieviorek1, Kelly Wanamaker2, Mark Wholey3, Rabih Chae3, Satish Muluk2, Ender A. Finol4. 1Carnegie Mellon University, Pittsburgh, PA; 2West Penn Allegheny Health System, Pittsburgh, PA; 3The University of Pittsburgh Medical Center, Pittsburgh, PA; 4The University of Texas at San Antonio, San Antonio, TX

Objectives: To review retrospectively records of patients treated with carotid artery stenting (CAS) to investigate correlations between clinical variables, distal protection filter (DPF) characteristics, and 30-day peri/post-procedural outcomes.

Methods: This is a multicenter, single-arm study of DPF-protected CAS in the Pittsburgh region between 2000 and 2011. Analysis of peri/post-procedure complications included myocardial infarction (MI), transient ischemic attacks (TIA), stroke, death, and a composite of all adverse events (AE). Characteristics for the DPFs were previously determined in vitro and were used to find correlations with CAS outcomes. Univariate, multivariate, and goodness-of-fit analyses were performed.

Results: 731 CAS procedures employing six different DPF were analyzed. Peri/post-procedural AE included 19 TIAs (2.6%), 38 strokes (5.2%), 1 MI (.1%), 19 deaths
Conclusions: Despite prior data suggesting women benefit less from carotid revascularization for asymptomatic carotid disease, 70% of revascularizations were performed in asymptomatic women. Stroke and death rates compare favorably to randomized controlled trials for both symptomatic and asymptomatic patients.

Table. Demographics, comorbidities, and symptom status in patients undergoing CEA and CAS

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>69.4</td>
<td>69.6</td>
<td>.27</td>
</tr>
<tr>
<td>Current smoker</td>
<td>28.4%</td>
<td>33.2%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>COPD</td>
<td>21.6%</td>
<td>25.2%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>HTN</td>
<td>87.3%</td>
<td>89.1%</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Diabetes</td>
<td>31.2%</td>
<td>31.8%</td>
<td>.34</td>
</tr>
<tr>
<td>Heart disease</td>
<td>37.6%</td>
<td>27.8%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Prior CABG/PCI</td>
<td>37.1%</td>
<td>24.5%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Dialysis</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.81</td>
</tr>
<tr>
<td>Symptomatic</td>
<td>35.1%</td>
<td>30.4%</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Conclusion: Despite prior data suggesting women benefit less from carotid revascularization for asymptomatic carotid disease, 70% of revascularizations were performed in asymptomatic women. Stroke and death rates compare favorably to randomized controlled trials for both symptomatic and asymptomatic patients.

Author Disclosures: R. P. Bensley: Nothing to disclose; E. L. Chaikof: Nothing to disclose; A. D. Hamdan: Nothing to disclose; R. Hurks: Nothing to disclose; R. C. Lo: Nothing to disclose; M. L. Schermerhorn: Medtronic, Consulting fees or other remuneration (payment) Boston Scientific, Consulting fees or other remuneration (payment) Endologix, Consulting fees or other remuneration (payment); M. C. Wyers: Nothing to disclose.

PS60.

Predictive Multivariate Regression to Increase the Specificity of Carotid Duplex for High-Grade Stenosis

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: Duplex ultrasound is the most commonly performed diagnostic modality for the detection of carotid artery stenosis. This noninvasive technique has excellent sensitivity but can sometimes lead to a false-positive diagnosis of severe stenosis and subsequently unwarranted endarterectomy. We therefore aimed to improve the specificity of duplex ultrasound for high-grade stenosis.

Methods: A retrospective review was performed for patients who underwent both carotid duplex ultrasound and CTA between 2000 and 2009. The NASCET technique was used to calculate percent stenosis and duplex ultrasound velocities were recorded. A logit regression model was built to predict severe stenosis using the combination of peak systolic velocity (PSV), end-diastolic velocity (EDV), and the ratio of PSV at stenosis to PSV at the common carotid.

Results: A total of 610 vessels were analyzed yielding 31 datapoints for severe and 579 for <80% stenosis. Index values were calculated for each carotid duplex combination using the logit formula generated by the model (-6.413+PSV*0.00851+EDV*0.0224+Ratio*-0.1166). The calculated logit regression formula was transformed to