Conclusions: In ISL lesions, LSM tends to occur more often with BT than without BT. The mechanism is usually an increase in EEM (positive remodeling) greater than the increase in plaque.

Baseline (mm²) Follow-up (mm²) P
Malapposed segment
Mean EEM 20.64±6.82 20.06±5.10 0.004
Mean Intrastent lumen 7.42±2.19 9.72±3.19 0.328
Mean Stent 6.89±1.89 6.77±1.83 0.424
Mean Plaque 11.75±3.79 12.63±4.28 0.11
Mean Effective Lumen 9.07±2.04 0.062

Central segment
Mean EEM 19.92±4.34 20.95±5.08 0.248
Mean Lumen 7.05±1.54 6.48±1.15 0.091
Mean Stent 8.49±1.67 8.28±1.55 0.424
Mean Plaque 11.49±2.97 12.6±3.69 0.165

1129 Carotid Stenting: Newer Devices and Different Adjunctive Pharmacological Regimens

Monday, March 31, 2003, 3:00 p.m.-5:00 p.m.
McCormick Place, Hall A
Presentation Hour: 3:00 p.m.-4:00 p.m.

1129-173 Low Stroke Rates During Carotid Artery Stenting With Neuroprotection


Background: Neuroprotection devices are used during carotid stenting to eliminate disluminal embolic debris and subsequent neurologic complications.

Methods: We report results after carotid artery stenting using a variety of distal protection devices in 378 patients (397 arteries) ([Mednova™, n=69, Angioguard™, n=14], Acu-net™, n=4) a distal balloon occlusion catheter (PercusurgeGuardwire™, n=288) or a proximal balloon occlusion catheter (Panoud™, n=10). Devices were chosen on the basis of intracranial collateral circulation, "high-risk" features and eligibility criteria for specific protocols. All patients had a NIH Stroke Scale performed before and within 24 hours after the procedure.

Results: The mean age was 73 ± 10 years. 14% had a history of stroke, amaurosis fugax in 6% and 30%, had a history of TIA within the past 6-months, 13% had a prior contralateral occlusion. Procedural success (stent placement and no complication) was achieved in 98.7%.

Thirty-Day Outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>All pts</th>
<th>Balloon</th>
<th>Filter</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No patients/arteries</td>
<td>279/296</td>
<td>59/101</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Minor Stroke</td>
<td>3 (1.0%)</td>
<td>1 (0.3%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
<tr>
<td>Major Stroke</td>
<td>1 (0.7%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
<tr>
<td>Retinal Embolus</td>
<td>3 (1.0%)</td>
<td>1 (0.3%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
<tr>
<td>Stroke Related Death</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
<tr>
<td>Non-Stroke Related Death</td>
<td>5 (1.7%)</td>
<td>2 (0.6%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
<tr>
<td>All Strokes and Deaths</td>
<td>8 (2.2%)</td>
<td>7 (2.3%)</td>
<td>1 (0.3%)</td>
<td>NS</td>
</tr>
<tr>
<td>All Deaths</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>NS</td>
</tr>
</tbody>
</table>

There were no differences in outcomes between filters or balloon occlusion devices. The only multivariate predictor of stroke was a contralateral occlusion.

Conclusion: Neuroprotection during carotid stenting is associated with low neurologic complication of any type (embolic or other) without any difference between balloon occlusion or filters. These data support the use of these devices in all carotid stenting procedures.

Poster Session

1129-186 Two-Year Clinical Follow-Up of Intracoronary Radiation Therapy Using 198Re-DTPA-Filled Balloon System After Coronary Artery Stenting

Young-Seok Cho, Bon-Kwon Koo, In-Ho Chae, Myoung-Mook Lee, Young-Bae Park, Seoul National University, Seoul, South Korea

Background: Intracoronary beta radiation therapies are known to reduce restenosis rate after coronary angioplasty. Long-term outcomes of these procedures are uncertain. The objective of this study is to evaluate the long-term effect on clinical outcome of 198Re-DTPA-filled balloon system following coronary artery stenting.

Methods: One-hundred twenty-two patients with significant de novo or in-stent restenosis lesions were recruited in this prospective, randomized, case-controlled study and followed-up for 34.0 ± 6.8 months. 64 patients were randomized to 198Re group and 58 to control group.

Results: There were no significant differences in clinical diagnosis, cardiovascular risk factors, and angiographic lesion characteristics between two groups. At two-year clinical follow-up, target- vessel revascularization rate (TVR) was significantly lower in 198Re group (14.1% versus 29.3%; P = 0.040) than control group. Maintaining early benefit was also observed at 6-months (10.9% in 166Re group versus 27.6% in control; P = 0.019). Two patients in 198Re group (at 16-months and 24-months follow-up, respectively) and one in control group (at 54 months) received a new TVR after 6-months follow-up. There were one non-fatal myocardial infarction in 198Re group at 19-months, and no cardiac death after 6-months. The composite end point of cardiac death, non-fatal MI, or TVR at two years follow-up period did not show significant difference between both groups (15.6% in 100Re versus 39.3% in control group; P = 0.098), although it had been significantly lower in 198Re group by 6-months (29.3% versus 12.5%; P = 0.022).

Conclusion: Long-term outcomes of intracoronary radiation therapy with 198Re-DTPA-filled balloon system after coronary artery stenting were favorable with a low rate of TVR, although some late failures were observed.

1129-174 The Volume of Embolic Particles Retrieved via Distal Protection Is Similar With Either Occlusion Balloon or Filter, But Markedly Lower in Carotid Arterial Than Saphenous Vein Graft Interventions

Anna Kuchel, Andrew C. Eisenhauer, Ryan Huynh, Bernard Chevalier, Joachim Schofer, Philip A. Seltser, Natalie D. Macon, Campbell Rogers, Brigham & Women's Hospital, Boston, MA, Massachusetts Institute of Technology, Cambridge, MA

Objective: Characterize particulate retrieved from carotid artery interventions (CAI) and saphenous vein saphenous vein interventions (SVGI) either via a distal occlusion balloon or an embolic protection filter.

Methods/Results: Particulate from 3 CAI and 17 SVGI using embolic occlusion balloon protection (Percusurge, Medtronic/AVE) and 5 CAI and 47 SVGI using a braided nitinol filter (Medtronic/AVE) was analyzed for particle size and appropriate embolic volume using an automated computer imaging system (RAPIDX, Beckman Coulter). The particle size distribution for all groups was nearly identical, with the majority being ≤ 96 μm in longest dimension (Figures). The embolic volumes for CAI (2.79 mm³ for balloon, 2.72 mm³ for filter) were significantly smaller than for SVGI, using either a balloon or filter (10 mm³ for both). Histologic evaluation revealed similar composition.

Conclusion: Aggregate embolic volumes for similar interventions are equivalent regardless of whether balloon or filter protection is employed. However, CAI yield only approximately 20% of the embolic volume of SVGI, with similar size distributions. Either SVGI lesions provide a larger embolic load, or carotid lesions are prone to incomplete thrombosis due to loss via the external carotid artery.

1129-175 Carotid Artery Stenting Can Be Safely Performed in Elderly Patients: A Single Center Experience

John P. Reilly, Hugo Quintana, Tyrone J. Collins, James S. Jenkins, Stephen R. Ramee, Christine A. White, Ochsner Clinic, New Orleans, LA

Background: Carotid artery stenting (CAS) is an accepted treatment for carotid artery disease, and is particularly attractive in patients at high risk for surgical endarterectomy. Previous reports suggest that elderly patients are at high risk for significant complications during CAS.

Methods: A prospective database of all patients undergoing CAS at our institution was interrogated. All patients over 80 years old underwent 65 CAS procedures at our institution since July 1994. The mean age was 82.8 ± 2.8 years (range 80 - 95 years). 32 CAS procedures were performed on the right carotid artery and 33 on the left carotid artery. The mean stenosis was 90.6 ± 8.9%. There were 15 diabetics, 12 smokers, 39 hypertensives, 8 with hypercholesterolemia, 6 with preoperative contralateral occlusion, and 9 had previously undergone carotid endarterectomy surgery, and nine had previously undergone carotid endarterectomy surgery. Ten patients had a prior myocardial infarction. Twenty-five patients were asymptomatic. In-hospital event rates for 61 CAS procedures (93.6%) were obtained, and follow-up at 30 days was available for 39 CAS procedures (60.0%). Two patients (0.3%) had events during the initial hospitalization, which were classified as minor strokes by a neurologist.