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VASCULAR DISEASE

SHORT- AND LONG-TERM OUTCOMES OF THREE APPROACHES TO CAROTID REVASCULARIZATION AMONG PATIENTS REQUIRING OPEN HEART SURGERY

ACC Poster Contributions
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Background: The best approach to the management of concomitant severe carotid and coronary artery disease remains uncertain to date. We evaluated short- and long-term outcomes of three strategies: Staged carotid endarterectomy (CEA) or carotid artery stenting (CAS) followed by open heart surgery (OHS) or combined CEA and OHS.

Methods: From 1997 to 2009, 327 patients underwent carotid revascularization either as staged endarterectomy (n=64) or stenting (n=96) within 90 days prior to OHS or combined CEA-OHS (n=167). CAS-OHS patients had a higher prevalence of prior stroke (p = 0.012) and prior CEA (p = 0.0007) than CEA-OHS patients. The primary end point was all-cause mortality; secondary end points were myocardial infarction (MI), stroke, and a composite of death, MI and stroke. Outcomes were compared using Cox proportional hazards multivariable time to event analysis.

Results: Table 1 illustrates the adjusted hazard ratios for the primary and secondary end points. CAS-OHS had the lowest mortality. Myocardial infarction occurred more frequently after staged CEA-OHS (unadjusted P[log rank] < 0.0001), with similar rates of stroke among all three groups (unadjusted P[log rank] = 0.23).

Conclusion: Carotid artery stenting followed by OHS is a less invasive alternative to either staged CEA-OHS or combined CEA-OHS with no significant increased risk of long term death, MI or stroke, even in a neurologically high risk population.

Table 1: Comparison of cohorts for the primary and secondary end points

Cohort	Adjusted Hazard Ratio	95% Confidence interval	P value
Primary end point (all-cause mortality)			
CAS-OHS vs combined CEA-OHS	0.57	(0.54, 0.95)	0.031
CAS-OHS vs staged CEA-OHS	1.02	(0.54, 1.53)	0.96
Staged CEA-OHS vs combined CEA-OHS	0.56	(0.31, 0.99)	0.049
Secondary composite end point (death, MI and stroke)			
CAS-OHS vs combined CEA-OHS	1.14	(0.76, 1.71)	0.52
CAS-OHS vs staged CEA-OHS	0.58	(0.54, 0.92)	0.019
Staged CEA-OHS vs combined CEA-OHS	1.97	(1.34, 2.90)	0.0005