

#13 THE IMPACT OF CAROTID ARTERY ANGIOPLASTY AND STENTING ON THE MANAGEMENT OF RECURRENT CAROTID ARTERY STENOSIS

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Objectives: Citing the higher perioperative risk of redo carotid surgery, balloon angioplasty and stenting of the carotid artery (CAS) has been advocated for recurrent carotid stenosis (RCS). To examine the impact of CAS on the management and outcome of recurrent stenosis, a retrospective review of a prospectively compiled database was performed.

Methods: From a registry of patients treated for carotid disease, 105 procedures were performed from 1992 to 2002 for RCS. For comparison, two study groups were examined. *Time I* consisted of 77 reoperations performed through 1998, before CAS was introduced at our institution. *Time II* included 12 reoperations and 16 CAS procedures performed for RCS from 1999 through 2002.

Results: Using perioperative stroke as a measure of outcome, the results for *Time II* were poorer, though not significantly so, from *Time I* (7.2% vs. 5.2%, p=NS). Overall, the risk of perioperative stroke was the same for reoperation (5 / 89) and CAS (1/16) (5.6% vs. 6.3%, p=NS). Although not statistically significant, there was a trend toward a higher risk of perioperative stroke for patients treated with reoperation during the latter time period (8.3% vs. 5.2%, p=NS). This most likely relates to the finding that during *Time II*, CAS was most likely to be utilized in asymptomatic patients (68.6% vs. 41.7%, p=NS) with early (<3 years) RCS (87.5% vs. 41.7%, p=.01). No patient with asymptomatic, early RCS had a perioperative stroke either with surgery or CAS (0 / 35 cases, 0%). The presence of preoperative neurologic symptoms was significantly predictive of a perioperative stroke among all procedures performed for RCS (13.6% vs. 0%, p=.004).

Conclusions: Contrary to suggestions that CAS might improve the management of RCS, a review of our data shows the overall risk of periprocedural stroke to be no better since CAS has become available. The bias for using CAS for asymptomatic myointimal hyperplastic lesions, and reoperation for frequently symptomatic late recurrent atherosclerotic disease makes direct comparisons of the two techniques for treating RCS difficult. It is expected that the overall risk for redo carotid surgery will increase as fewer low risk patients will be receiving open procedures. However, the increased risk among symptomatic patients undergoing reoperation suggests that endovascular techniques should be investigated among this group of cases as well.