Asymptomatic Carotid Stenosis in Cardiac Surgery Patients
Is Less More?

Rebecca F. Gottesman, MD, PhD

Asymptomatic carotid disease in the setting of planned cardiac revascularization becomes somewhat more complex because surgical treatment of either may be complicated by disease in the other vascular bed, but the general lack of certainty about whether any revascularization is needed in individuals with asymptomatic disease extends to the particular cardiac surgery scenario as addressed in this issue of Stroke. In the CABACS trial, individuals with asymptomatic carotid stenosis, detected by ultrasound, of at least 80% by European Carotid Surgery Trial criteria (corresponding to >70% for the North American Symptomatic Carotid Endarterectomy Trial), and with an indication for coronary surgical revascularization, were randomized to receive combined CEA with CABG versus CABG alone. Throughout the Czech Republic and Germany, 129 patients were enrolled, and the study was terminated early because of lack of funds. By intention-to-treat analysis, no statistical differences were noted between the groups, but follow-up was limited to 1 year. Although rates of stroke and death were generally higher than reported in some other studies, this is likely because of this being a relatively high risk and older population. Although not statistically different, the isolated CABG group tended to do better than did the combined procedure group (the 30-day and 1-year combined stroke/death rates were 18.5% and 23.4%, respectively, in the isolated CABG group and were 9.7% and 13.1%, respectively, in the isolated CABG group). Importantly, both groups were managed with best medical treatment, including risk factor management with antiplatelet therapy, antihypertensives, and lipid-lowering drugs, and the majority of individuals in both treatment groups remained on statins, antiplatelet medications, and antihypertensive therapy, even up to 1 year out from surgery.

Although proponents of carotid revascularization in this setting could argue that this study may have failed to show a benefit from combined CEA/ CABG because (1) the lack of staging of the procedures (referring to doing one after the other instead of simultaneously) may have led to worse outcomes or (2) carotid stenting either combined or staged with CABG may have been more successful at reducing risk of stroke and death, it is important to consider another viewpoint, which is more clearly considered in the evaluation of asymptomatic carotid stenosis in the general population. This study suggests that even in the presence of concurrent coronary disease, not intervening on an asymptomatic carotid lesion may be better than an intervention. Modern medical management affords consideration of this option, and CREST-2 will help provide valuable data to answer whether selecting medical management over revascularization for asymptomatic carotid stenosis is safe, or even preferred, even in the absence of cardiac disease requiring cardiopulmonary bypass.

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As the population requiring CABG surgery increases in age and comorbidities, it is likely that asymptomatic carotid stenosis will become increasingly prevalent among surgical candidates. Using Swedish registry data, evaluation of risk factors in individuals getting isolated CABG from 1987 to 2006 demonstrated that the rate of diabetes mellitus more than doubled, and the rates of hypertension and prior stroke nearly tripled. Other studies have reported higher rates of carotid stenosis in more recent surgical cohorts compared with individuals undergoing cardiac surgery in earlier time epochs. Thus, it will become increasingly important to know how to manage asymptomatic carotid disease in CABG candidates. Data from the CABACS trial, including its long-term follow-up data that are still being collected, in combination with evidence from CREST-2 and other trials evaluating asymptomatic carotid stenosis management in the general population, will help guide clinicians planning CABG, or treating asymptomatic carotid stenosis patients who are in need of CABG. About management of asymptomatic carotid stenosis in individuals requiring cardiopulmonary bypass surgery, it may be that less is more.

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References

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