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INVITED COMMENTARY

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This is one of the largest single-center series documenting early and long-term outcomes after carotid angioplasty (CAS) in a selected group of patients deemed "high-risk" for carotid endarterectomy (CEA). In particular, it is one of few published series with 10-year follow-up data. Although it is inevitable that surgeons will disagree with some of the criteria deemed to render patients at higher risk for procedural stroke (asymptomatic atherosclerotic stenosis, asymptomatic post-CEA restenosis, and asymptomatic postradiation stenosis), the title of this paper (conveniently) shifts debate away from patient selection to focus attention on late results. This is a perfectly reasonable aim, bearing in mind the skepticism of many surgeons regarding claims that the late results of CAS are at least equivalent to CEA.

In this respect, the data from this paper clearly suggest that the risk of long-term stroke after CAS is remarkably low (10-year freedom from any stroke and ipsilateral stroke was 96% and 98%). These results are much better than most contemporary surgical series and represent an improvement on parallel data from the European Carotid Surgery Trial (ECST), the North American Symptomatic Carotid Endarterectomy Trial (NASCET), the Asymptomatic Carotid Atherosclerosis Study (ACAS) and the Asymptomatic Carotid Surgery Trial (ACST). None of the ran-

domized trials came close to reporting an annual ipsilateral stroke risk of 0.2%, although Bergeron et al do cite other studies with results similar to theirs. Interestingly, the authors have not referenced the Carotid and Vertebral Artery Transluminal Angioplasty Study (CAVATAS).[1] Although criticized for its high procedural risk, the "much maligned" CAVATAS trial is one of the few randomized studies to have shown that following *successful* CAS, there is no significant difference in the risk of late stroke when compared with CEA.

Notwithstanding the low risk of late stroke, which is actually the most important end-point to consider, surgeons have also been critical of apparently higher rates of restenosis after CAS compared with CEA, citing this as a major limitation for the future. Once again, the data from Bergeron would seem to suggest that this concern is unfounded. In their study, cumulative freedom from restenosis >50% was 1.8%, 3.2%, and 6.8% at 1, 2 and 10 years, respectively—again, much lower than most contemporary surgical series. In CAVATAS, CAS patients incurred a 14% risk of restenosis >70% at 1 year compared with 6.7% in CEA patients. Quite why this difference should be so marked is unknown, but merits further study.

This paper has not settled issues regarding patient selection and generalizability (key unresolved issues), but it does contribute towards an increasing body of evidence that long-term outcomes are probably no different to CEA.

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