

CORRESPONDENCE**TO THE EDITOR****Re: Carotid Stenting in Asymptomatic Carotid Stenosis: The Calgary Experience. Can J Neurol Sci. 2010; 37: 568-73.**

I read with interest this report of the Calgary experience with carotid stenting (CAS) for asymptomatic carotid stenosis¹. The authors should be commended for their excellent safety and efficacy results. The relevant issue is, however whether this group of patients should have been treated with CAS at all.

As this article documents, most large randomized controlled trials (RCTs) of carotid stenting vs. carotid endarterectomy (CEA) include a mixture of symptomatic and asymptomatic patients with varying degrees of carotid stenosis. The largest of these RCTs is the Carotid Revascularization Endarterectomy vs. Stent Trial (CREST), in which 47% of the 2502 patients were asymptomatic². Although the study concluded that there was no significant difference between CAS and CEA in the estimated 4-year rates of the primary end points of stroke, death and myocardial infarction, there were more strokes in the CAS group (4.1% vs. 2.3%). Carotid Revascularization Endarterectomy vs. Stent Trial, and many other similar RCTs violate the principle of *ceteris paribus*, essential to a credible trial, which requires “all other things being equal” when comparing two entities³. Symptomatic and asymptomatic carotid disease are not the same.

Arguments have been made that asymptomatic carotid disease rarely if ever requires any invasive intervention. The major trials comparing medical management with CEA in this group of patients showed that complication rates from surgery needed to be less than 3% to show any clinical benefit, and that the number needed to prevent one stroke at two years is over 67, compared to six for symptomatic disease. These trials showed a 5.9% absolute risk of stroke reduction at five years, compared to a 15.6% risk reduction in symptomatic patients. Medical management of asymptomatic carotid disease has markedly reduced the annual stroke risk in these patients to less than 1%, well below the risk of stroke or death in asymptomatic patients in CREST of 4.5% for CAS, and 2.7% for CEA⁴.

The popular press and many medical publications in the United States have heralded the CREST results as showing equality between CAS and CEA⁵, despite limitations of the available data. There is a danger that CREST and articles such as this report from Calgary will be interpreted as sanctioning the widespread treatment of asymptomatic carotid disease with CAS, which is often viewed as a “less-invasive” surgical option. There are currently at least three trials of intervention vs. best medical management of asymptomatic carotid disease in progress. In this era of evidence-based medicine and the need to justify medical expenditures, routine treatment of asymptomatic carotid disease by CAS or CEA should cease until better information is available.

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REFERENCES

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3. Lilienfeld AM. *Ceteris paribus: the evolution of the clinical trial. Bulletin of the history of medicine.* 1982; 56: 1-18.
4. Abbott AL. Medical (nonsurgical) intervention alone is now the best for prevention of stroke associated with asymptomatic severe carotid stenosis: results of a systematic review and analysis. *Stroke.* 2009; 40: e573-83.
5. Naylor AR. Riding on the CREST of a wave! *Eur J Vasc Surg.* 2010; 39: 523-6.

CORRECTIONS

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TITLE: CCSVI: Hope, Hype or Snake Oil?

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The authors name was misspelled: “Mona Alkhajawah” should have been “Mona Alkhawajah”. The article has been corrected at www.cjns.org.