Wasting Stroke Prevention Resources

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See related article, p 1781.

After the financial downturn of 2008, many governments and businesses were forced to cut costs and live in a new “age of austerity.” With regard to the provision of healthcare services, the age of austerity requires prioritizing healthcare needs and providing treatments that are demonstrably beneficial and in the ideal world, relatively inexpensive as well.

So what are our current priorities for the primary prevention of stroke? Available options run the gamut from lifestyle factors that are virtually free (physical exercise), inexpensive (aspirin for select populations, generic statins/antihypertensives), and expensive (carotid endarterectomy [CEA] or more recently carotid artery stenting for selected patients with severe, asymptomatic stenosis).1

In terms of both CEA and carotid artery stenting for asymptomatic stenosis, experienced clinicians recognize that both involve an upfront risk to the patient due to the hazards of perioperative stroke, myocardial infarction, or death. As a result, patients need to live long enough to first “break even” from the perioperative risk and then to hopefully gain additional years of stroke-free survival over the long term. In the Asymptomatic Carotid Surgery Trial (ACST), patients who received immediate surgery did not break even until after the 2-year mark.2 Over a subsequent 10-year period of follow-up, there was a relatively modest absolute benefit of 4.6% reduction in stroke.3 This equates to an annual benefit of 0.46% favoring surgery, that is, well below the 1% threshold that many healthcare researchers regard as being clinically significant for carotid revascularization in asymptomatic subjects.

In this issue of Stroke, Wallaert et al4 evaluated information from an administrative data set, the American College of Surgeons National Quality Improvement Project. The authors identified 8 conditions from the literature that are likely to reduce long-term survival, including cancer, severe lung disease, and high American Society of Anesthesiology risk scores. Of 12,631 CEA operations performed in asymptomatic patients, 20% were performed in subjects who had at least 1 of the conditions associated with reduced life expectancy. The most common coexisting conditions were severe chronic obstructive pulmonary disease and an American Society of Anesthesia Class IV designation. In patients with comorbidities associated with decreased survival, there was a nearly 3-fold increased risk of perioperative stroke or death compared with those patients without these conditions (OR, 2.8; P<0.001). Despite the fact that the ACST did not show significant benefit from CEA in patients aged >75 years,2 in patients with life-limiting conditions in the study by Wallaert et al, 42.1% were aged >75 years and 22.7% were aged >80 years.

The authors’ conclusion that the “net benefit of CEA in this population remains uncertain” appears too polite. It is overwhelmingly likely that asymptomatic patients with life-limiting conditions derive no benefit from carotid revascularization and that healthcare expenditures for patients in this category represent squandered resources.

This study should serve as a “wake-up call” for physicians, patient advocacy groups that promote patient safety, and also third-party payers. Going forward, there should be greater preprocedure involvement of multidisciplinary stroke teams that can provide a more comprehensive analysis of the risk/benefit ratio for CEA and carotid artery stenting (because the same observations apply equally).5 In addition, patient groups should recognize that elderly individuals who undergo procedures with appreciable risk and little prospect of benefit are having their safety compromised. Finally, third-party payers should be more proactive about requiring preapproval for procedures such as CEA and carotid artery stenting in the elderly, especially if they present with any conditions associated with reduced life expectancy. The case reviews should be done by those with adequate knowledge of factors that increase both periprocedural risk and long-term death.6,7

A previous analysis estimated that the US healthcare system spends $2.1 billion annually on unnecessary CEA/carotid artery stenting procedures in asymptomatic patients.8 The study by Wallaert et al illustrates this point with clarity and depicts overuse of carotid revascularization procedures in its starkest form. It is not a pretty picture.

Disclosures

Dr Chaturvedi is a consultant to Abbott Vascular, W.L. Gore, and Thornhill Research.

References


**KEY WORDS:** carotid endarterectomy ■ carotid stenosis ■ endarterectomy ■ outcomes
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