Should Stroke Be Considered Both a Brain Attack and a Heart Attack?

Seemant Chaturvedi, MD, FAHA, FAAN

See related article, pages 1752–1758.

The concept of coronary risk equivalents has gained increased acceptance in recent years. In the 2001 National Cholesterol Education Program (NCEP) Adult Treatment Panel III guidelines, diabetes mellitus, peripheral arterial disease, abdominal aortic aneurysm, and "symptomatic carotid artery disease" were cited as coronary risk equivalents.1 These conditions carry a 10-year risk of coronary heart disease events of >20%.

In 2004, the tent containing coronary risk equivalent conditions was expanded by the NCEP committee to symptomatic carotid disease or ">50% obstruction of a carotid artery."2 In addition, whereas in 2001, the low-density lipoprotein target for coronary risk equivalents was <100 mg/dL, in 2004, an optional target of <70 mg/dL was established for high-risk patients.

In this issue of Stroke, Dhamoon et al, using data from the Northern Manhattan Study, provide further ammunition to support the enlargement of the coronary risk equivalent umbrella.3 These authors followed 655 patients (aged 40 years or older) with a first ischemic stroke for a 5-year period. In their overall population, the 5-year risk of myocardial infarction (MI) or vascular death (VD) was 17.4%. There was an increased “up front” risk of 8.2% at one year. Their study also identified age >70 years, history of coronary artery disease, and atrial fibrillation as independent predictors of MI or VD. Embolic stroke subtype was particularly ominous, whereas lacunar stroke subtype was less risky. The 5-year risk of MI or VD was 11.5% in patients aged 70 years and over with lacunar infarcts, whereas the corresponding risk was 6.0% in lacunar stroke patients <70 years.

This comprehensive study poses several challenges and questions for clinicians and policy makers. First, because MI and VD are common in the first 5 years after stroke, should there be more widespread screening for occult heart disease? The data from Northern Manhattan resonate well with a previous American Stroke Association recommendation that patients with large-vessel atherosclerotic stroke should be considered for cardiac screening whereas lacunar stroke patients may not require screening.4 Second, the risk of both recurrent stroke events and cardiac events calls for a strategy of “intensive medical therapy” after the first stroke, especially considering that previous studies have shown unsatisfactory results with use of vascular medications or risk factor modification in various stroke-prone populations.5–7 Third, the increased first-year stroke of MI or VD should prompt consideration of cardioprotective therapies at an early stage. For example, use of β blockers or statins have shown value in vascular surgery patients and may be of use in decreasing major vascular events in the days and months after a stroke.8,9 For policy makers, designating ischemic stroke as a coronary risk equivalent should be strongly considered, with the possible exception of younger lacunar stroke patients.

As with all studies, the current report has limitations. The Northern Manhattan cohort is not entirely representative of the broader North American population. In this report, 51.3% of patients were Hispanic and 45.1% had diabetes. These figures do not reflect the larger stroke population. The high frequency of diabetes could overestimate the risk of coronary events. In addition, the authors do not provide information on medication use after the first stroke, so we do not know whether these risk estimates occurred while receiving “state of the art” or “usual” preventative treatment, although it was likely the latter.

Despite these limitations, this report is extremely thought-provoking for clinicians. It should prod those who are standing on the sidelines to jump on the bandwagon of intensive medical therapy, in recognition of the stroke survivor’s multifaceted vascular risks.

Disclosures

None.

References


KEY WORDS: cardiac disease statins
Should Stroke Be Considered Both a Brain Attack and a Heart Attack?
Seemant Chaturvedi

Stroke. 2007;38:1713-1714; originally published online April 12, 2007;
doi: 10.1161/STROKEAHA.107.487223
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2007 American Heart Association, Inc. All rights reserved.
Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://stroke.ahajournals.org/content/38/6/1713

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published
in Stroke can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office.
Once the online version of the published article for which permission is being requested is located, click
Request Permissions in the middle column of the Web page under Services. Further information about this
process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Stroke is online at:
http://stroke.ahajournals.org//subscriptions/