Response to Letter by Moody et al

Response:

We thank Dr Moody and colleagues for their comments on our article and agree that more streamlined protocols, extended coverage, and greater consistency in image quality are essential for plaque-imaging to be widely accepted in routine clinical practice. However, we strongly believe that efficiencies gained in scanning time should not be at the expense of a more comprehensive assessment of plaque structure and composition. Nearly 3 decades ago, Imparato et al reported in Stroke that intraplaque hemorrhage was frequently observed in plaques associated with focal neurologic symptoms, and noted the need for developing noninvasive means to classify plaques for rational therapeutic decision-making.1 Since that time, a number of landmark histopathology reports suggest the importance of additional plaque features, such as the status of the fibrous cap and the size and location of the necrotic core.2–h MRI has been validated as a technique to identify not only intraplaque hemorrhage, but also many of these additional features that are suggested to be critical determinants of plaque vulnerability. In order to accurately and reproducibly identify the characteristics of these complex lesions, a multicontrast-weighted protocol is needed. Furthermore, it has been well established that MRI signal characteristics change with the age of hemorrhage, and that accurate staging of hemorrhage is facilitated by multicontrast-weighted imaging.

Undoubtedly, more efficient image acquisition will result in better patient acceptance, less artifact from patient motion, and reduced costs. We expect that improvements in technology, for example 3-T MRI, will lead to reduced scanning time yet still allow a multicontrast-weighted protocol that provides the benefits of a more comprehensive assessment of the vessel wall.

MRI provides a valuable tool to establish the risk associated with a number of plaque features for future events in prospective studies. Furthermore, it provides a means to test mechanistic hypotheses on factors leading to the development of the high-risk lesion in vivo. At this early stage of prospective studies with MRI, it is imperative that we cast a wide net to establish which of the many plaque features pose the greatest risk.

Thomas S. Hatuskami, MD
University of Washington
Division of Vascular Surgery
Seattle, Wash

Norihide Takaya, MD, PhD
Juntendo University School of Medicine
Department of Cardiology
Seattle, Wash

Chun Yuan, PhD
University of Washington
Department of Radiology
Seattle, Wash

Response to Letter by Moody et al
Thomas S. Hatsukami, Norihide Takaya and Chun Yuan

Stroke. 2006;37:1649; originally published online June 1, 2006;
doi: 10.1161/01.STR.0000227258.40393.f1
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2006 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/37/7/1649

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/