Angiotensin Receptor Blockers and Stroke Therapy
It Is All About the Blood Pressure

Geoffrey A. Donnan, MD, FRACP; Stephen M. Davis, MD, FRACP

Blood pressure remains the single most important modifiable risk factor for primary and secondary stroke prevention. There have been endless arguments about the possibility of specific class effects for stroke prevention with much of this debate focused on various mechanisms of blockade of the renin–angiotensin system versus the generic effect of blood pressure-lowering. As indicated by the eloquent arguments put forward by both our protagonists, a reasonable case can be made for either point of view.

Let us briefly look at the big picture; first, primary prevention. There is overwhelming epidemiological evidence of the strong relationship between the risk of vascular events and blood pressure without a definite lower limit and this applies to both primary and secondary stroke prevention.1–3 Although some individual trials suggest a class effect not explained purely by the extent of blood pressure reduction, a recent meta-analysis of 31 trials involving 190 000 patients showed a lack of effect of drug class on major vascular events.4 In another recent meta-analysis in which angiotensin-converting enzyme inhibitors and angiotensin receptor blockers were specifically compared, there were similar blood pressure-dependent effects for stroke prevention.5

For secondary prevention, the current evidence supports the use of angiotensin-converting enzyme inhibitors, ideally in combination with diuretics, as first-line therapy.3,6 It is likely that angiotensin receptor blockers have a similar benefit, but the evidence is less compelling.7,8 We would generally use angiotensin receptor blockers in angiotensin-converting enzyme inhibitor-intolerant patients due to their lower rate of side effects, particularly cough.

The even bigger picture is the need to put this debate into the package of proven risk reduction for stroke. These include management of lifestyle factors and, for secondary prevention, discharge from the hospital on a combination of blood pressure-lowering, statin, and antiplatelet agent.

Disclosures

None.

References


Key Words: controversy ■ prevention ■ risk factors

Received and accepted June 30, 2009.
From the National Stroke Research Institute (G.A.D.), Melbourne, Australia; and Royal Melbourne Hospital (S.M.D.), Parkville, Victoria, Australia. Correspondence to Stephen M. Davis, MD, FRACP, Divisional Director of Neurosciences, Director of Neurology, Royal Melbourne Hospital, Parkville, Victoria, Australia 3050. E-mail stephen.davis@mh.org.au
(Stroke. 2009;40:3163.)
© 2009 American Heart Association, Inc.

Stroke is available at http://stroke.ahajournals.org

DOI: 10.1161/STROKEAHA.109.559070

3163
Angiotensin Receptor Blockers and Stroke Therapy: It Is All About the Blood Pressure
Geoffrey A. Donnan and Stephen M. Davis

Stroke. 2009;40:3163; originally published online July 30, 2009;
doi: 10.1161/STROKEAHA.109.559070
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2009 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/40/9/3163

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/