Response to Letter Regarding Article, “Acute Kidney Injury and Cardiovascular Outcomes in Acute Severe Hypertension”

We thank Dr Lin and colleagues for their questions regarding the analysis from the Studying the Treatment of Acute Hypertension Registry (STAT) registry exploring the relationship between both acute and chronic kidney disease in patients with acute hypertension. There are two different aspects of their questions that can be addressed. First, on the mathematical or statistical level, Lin et al suggest different ways in which the data can be analyzed. The inclusion of various parameters of blood pressure (including mean arterial pressure) as well as the analysis of change in kidney function using different methods were conducted within STAT. The results and conclusions were not significantly different from those presented in the published article, so they were not included owing to space constraints.

More importantly, though, Lin et al emphasize that these data are counterintuitive to what would be expected based on studies that have been conducted in settings other than acute severe hypertension. As they have noted, patients receiving chronic dialysis have mortality rates that are significantly higher than those with chronic kidney disease or the general population, and race and the presence of diabetes mellitus are both significantly associated with worse outcomes. These findings are consistent over multiple studies in the chronic outpatient care setting. However, few studies have examined these relationships during the event of hospitalization owing to acute severe hypertension. Regardless of whether the greater mortality risk associated with acute kidney injury than end stage renal disease in acute severe hypertension reflects differences in diagnosis or pathophysiology of the acute event between the two groups, the clinical message is an important one that should draw clinical as well as research attention to this previously under-recognized high-risk group of patients with acute kidney injury.

We agree that the differences in relationships between these clinical and demographic parameters in the acute as compared with the chronic setting are intriguing. They represent a clear need to further study the associations with acute kidney injury in acute severe hypertension and to develop treatments to mitigate the risk.

Sources of Funding

STAT was supported by a research grant from The Medicines Company.

Disclosures

Dr Szczech reports receiving consulting fees from Ortho Biotech Clinical Affairs, Nabi Pharmaceuticals, Gilead, Fresenius Medical Care, Kureha, Affymax, and Acologix; lecture fees from Nabi Biopharmaceuticals, Fresenius Medical Care, GlaxoSmithKline, Gilead, Genzyme, Abbott, Amgen, and Ortho Biotech; and grant support from GlaxoSmithKline, Pfizer, and Genzyme. Dr Granger has received research grant support and honoraria from, and is a consultant/advisory board member for The Medicines Company, W. Frank Peacock is on the advisory board of Novartis, MSD, Wyeth, Daichi-Sankyo, and Boehringer-Ingelheim and is on the speakers’ bureau for Novartis, Daichi-Sankyo, and Boehringer-Ingelheim. Dr Anderson has received research grant support from The Medicines Company; is on the speakers’ bureau for PDL Biopharma and The Medicines Company; and is a consultant/advisory board member for The Medicines Company. All other authors report no conflicts.

Lynda A. Szczech, MD, MSCE
Department of Medicine
Division of Nephrology
Duke University Medical Center
Durham, NC

Christopher B. Granger, MD
Jason N. Katz, MD
Duke Clinical Research Institute
Durham, NC

Joseph F. Dasta, MSc, FCCM
College of Pharmacy
University of Texas
Round Rock, TX

Alpesh Amin, MD
University of California Irvine Medical Center
Orange, CA

W. Frank Peacock, MD
Emergency Department
The Cleveland Clinic
Cleveland, OH

Peter A. McCullough, MD, MPH, FACC, FACP, FAHA, FCCP
William Beaumont Hospital
Royal Oak, MI

John W. Devlin, PharmD
School of Pharmacy
Northeastern University School of Pharmacy
Boston, MA

Matthew R. Weir, MD, MS
Division of Nephrology
University of Maryland School of Medicine
Baltimore, MD

Allison Wyman, MS
Frederick A. Anderson, Jr, PhD
Center for Outcomes Research
University of Massachusetts Medical School
Worcester, MA

Joseph Varon, MD, FACP, FCCP, FCCM
The Methodist Hospital
Houston, TX

For the Stat Investigators

Reference

Response to Letter Regarding Article, "Acute Kidney Injury and Cardiovascular Outcomes in Acute Severe Hypertension"

Lynda A. Szczech, Christopher B. Granger, Jason N. Katz, Joseph F. Dasta, Alpesh Amin, W. Frank Peacock, Peter A. McCullough, John W. Devlin, Matthew R. Weir, Allison Wyman, Frederick A. Anderson, Jr, Joseph Varon and For the Stat Investigators

_Circulation_. 2011;123:e268
doi: 10.1161/CIRCULATIONAHA.110.984963
_Circulation_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2011 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://circ.ahajournals.org/content/123/9/e268

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation_ 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 _Circulation_ is online at:
http://circ.ahajournals.org//subscriptions/