Letter to the Editor

Intraoperative Magnesium Administration Does Not Improve Neurocognitive Function Following Cardiac Surgery

To the Editor:

The human brain is a binomial organ, consisting of 2 hemispheres. A hallmark of binomial distribution of lesions affecting supratentorial components is that the highest rate of any sign or symptom attributable to lesions affecting either hemisphere is 50%. For example, the highest incidence of epilepsy or Wernicke aphasia in randomly distributed metastatic or ischemic lesions affecting the brain is 50%, as is the ultimate rate of postoperative cognitive decline (POCD) in those undergoing coronary artery bypass grafts. This is because all of the conditions enumerated (seizures, aphasia, and cognition) are related to injury involving the major hemisphere (left, in vast majority of right-handed people).

This letter is dedicated to clarifying the reason behind the abovementioned statistical fact, confirmed in a recent article published in Stroke by Mathew et al.1 Historically, the first instance of the abovedescribed prediction was the influential work by Kernohan and Woltman in 1929.2 Accordingly, 17 of 35 patients (50%) with supratentorial components is that the highest rate of any sign or symptom attributable to lesions affecting either hemisphere is 50%. For example, the highest incidence of epilepsy or Wernicke aphasia in randomly distributed metastatic or ischemic lesions affecting the brain is 50%, as is the ultimate rate of postoperative cognitive decline (POCD) in those undergoing coronary artery bypass grafts. This is because all of the conditions enumerated (seizures, aphasia, and cognition) are related to injury involving the major hemisphere (left, in vast majority of right-handed people).

This letter is dedicated to clarifying the reason behind the abovementioned statistical fact, confirmed in a recent article published in Stroke by Mathew et al.1


Disclosures

None.

Iraj Derakhshan, MD
Formerly at Department of Neurology
Cincinnati and Case Western Reserve University
Cleveland, OH


Letter by Derakhshan Regarding Article, "Intraoperative Magnesium Administration Does Not Improve Neurocognitive Function Following Cardiac Surgery"
Iraj Derakhshan

*Stroke*. 2014;45:e44; originally published online January 21, 2014; doi: 10.1161/STROKEAHA.113.004005
*Stroke* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2014 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/45/3/e44

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/