

CHRONIC CEREBROSPINAL VENOUS INSUFFICIENCY: HAVE WE FOUND THE CAUSE AND CURE OF MS?

To the Editor: We read the Editorial “Chronic cerebrospinal venous insufficiency: Have we found the cause and cure of MS?”¹ in response to our article.² Drs. Fox and Rae-Grant reported that we used a single, unblinded ultrasound technician to study 499 subjects. This may be misleading to readers.

We reported that blinding between the groups was achieved by the following strategies: 1) instructing subjects not to reveal their disease status during the examination; 2) including patients with no disability or walking difficulties to ensure blinding between nondisabled patients and both healthy and nonhealthy controls; 3) including patients with substantial disability, but no multiple sclerosis (MS) diagnosis who presented with gait disturbances and incoordination, dysarthria, and memory problems similar to patients with MS; and 4) using an ultrasound technologist unfamiliar with the signs and symptoms of either MS or other neurologic diseases.² The effectiveness of these blinding methods can be debated but characterizing the technician as “unblinded” is arbitrary.

The editorialists also reported that within-rater and between-rater reproducibility of the ultrasound procedure was unknown.¹ Our study reported that within-rater reproducibility for chronic cerebrospinal venous insufficiency (CCSVI) status was assessed in 28 subjects who were examined in a blinded manner twice over a 1-week period.² The agreement was 89.3% between the 2 measurements (κ 0.75, $p < 0.001$, 95% confidence interval 0.48–1.0). Another study reported within- and between-rater agreement of the CCSVI protocol.³

We believe the statements “unblinded ultrasound technician” and “within-rater reproducibility of the ultrasound procedure is unknown”¹ are not supported by our study results² and should be adjusted.

Robert Zivadinov, Karen Marr, Buffalo, NY

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Reply from the Editorialists: Dr. Zivadinov et al. raise two critical issues in reconciling disparate results from different CCSVI studies including the reliability of ultrasound assessment and the potential impact of bias in ultrasound assessment.²

Assuming patients with MS are relatively similar from study to study, a range of 0%⁴ to 100%³ in the incidence of CCSVI in patients with MS is most likely related to how the ultrasound assessments are performed between studies rather than dramatic differences in the populations studied.

Preliminary reproducibility reports of ultrasound assessments have only described the reliability of overall CCSVI designation (i.e., fulfillment of ≥ 2 component criteria).^{3,5} Overall agreement has been $\kappa = 0.75$ – 0.80 , which is relatively low considering the surgical implications advocated by proponents of CCSVI intervention. In addition, the $\kappa = 0.80$ reported by Menegatti et al.³ was only after a 2-week one-on-one training program by Dr. Zamboni. Before training, the intrarater reliability was only $\kappa = 0.47$, an estimate that more closely reflects general clinical practice. The reliability of individual CCSVI component criteria, variability in ultrasound assessments in general clinical practice, and the consequences of variables such as patient hydration and ultrasound technique on CCSVI criteria are necessary.

Potential bias in ultrasound performance may also affect ultrasound assessment for CCSVI. We recently presented data showing that head positioning, probe compression, multi-gate positioning, and choice of Doppler vs B-mode imaging for vein measurements can alter several CCSVI assessments, including cross-sectional diameter and blood flow velocity.⁶ For example, by adjusting the pulse repetition frequency dial on the ultrasound machine, reflux in the internal jugular vein can be made to disappear. Appropriate blinding to minimize potential bias should include a separate investigator positioning the subject prior to the arrival of the ultrasonographer and a separate evaluator over-reading each ultrasound recording. This level of blinding has not been reported in current CCSVI studies.

We believe that progress in reconciling disparate CCSVI study results will require more detailed attention to the performance of ultrasound assessments

than has previously been reported and appreciate Zivadinov et al. drawing attention to these important issues.

Robert J. Fox, MD, Alex Rae-Grant, MD, Cleveland, OH

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UPHOLDING PROFESSIONALISM: THE DISCIPLINARY PROCESS OF THE AMERICAN ACADEMY OF NEUROLOGY

To the Editor: The American Academy of Neurology (AAN)'s recent revision of its policies regarding inappropriate medical-legal expert testimony¹ is welcome news for practicing neurologists and medical malpractice insurance carriers. Half of all practicing neurologists have been sued.² The estimated cost of practicing defensive neurology—defined as the ordering of otherwise unnecessary tests, procedures, and hospitalizations solely to reduce a perceived threat of litigation—is \$258 million annually.³ The relative contributions of nonmeritorious lawsuits to these figures are unclear.

However, a nonmeritorious lawsuit cannot proceed without an “expert” who, because of ignorance or avarice, will testify that malpractice has occurred.

With the promise of an hourly wage 2 to 3 times that of a practicing neurologist, and with little perceived threat of professional censure, such “experts” have been all too available.

Those days are, hopefully, over. The AAN has substantially strengthened its enforcement of the AAN's Code of Professional Conduct. All complaints, including allegations of improper expert witness testimony, are handled quickly and with appropriate procedural safeguards. In the last 5 years, 18% of member complaints regarding inappropriate expert testimony in the last 5 years have resulted in sanctions.¹

Having publically criticized the AAN for its comparatively lax enforcement in the past,⁴ I would like to now acknowledge the AAN staff and my colleagues who volunteer to serve on the AAN's Grievance Committee and Fair Hearing Panel Committee for taking on the unpleasant responsibility of peer review in this setting. Members who observe inappropriate testimony should now be confident that their complaints will be evaluated quickly and thoroughly.

Members who consider proffering such inappropriate testimony should now reconsider, as their actions carry a very real threat of professional censure, including expulsion from the AAN and reporting to the National Practitioner Data Bank.

Donald J. Iverson, Eureka, CA

Disclosure: Dr. Iverson is on the editorial board of *Neurology Today* and served as a *Neuro PI* editor.

Reply from the Authors: Dr. Iverson's confidence in the AAN's disciplinary process and its ability to deter improper expert witness testimony is appreciated, as is his gratitude for the AAN members who volunteer their time and expertise to run an efficient and sound peer review process.

As outlined in our article, improvements have been made to the disciplinary process over the past 3 years that have increased the efficiency with which complaints are handled and enhanced procedural safeguards.¹ Although these improvements assist in ensuring all complaints, including those alleging improper expert witness testimony, are handled appropriately and expeditiously, the AAN has a longstanding history of promulgating policies concerning expert witness testimony.

In 1989, the AAN Board adopted the Qualifications and Guidelines for the Physician Expert Witness (Expert Witness Guidelines), which were adapted from guidance developed by the Council of Medical Specialty Societies.⁵ In 2005, the AAN Board retired the 1989 Expert Witness Guidelines and approved a new version drafted by the Ethics, Law and Humanities Committee, which was submit-