Cardiologist on Trial: Reflections on Credible Evidence

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During a recent medical malpractice lawsuit brought against me, I was forced to confront the fundamentally different ways in which physician scientists and litigation attorneys assess and utilize clinical evidence. The plaintiff alleged that I failed to diagnose myocardial sarcoid in her husband and that my failure to do so resulted in her husband’s death. Her case was based largely on the testimony of one expert witness, who had been involved in more than 300 other medical malpractice actions, and who had never performed any kind of peer-reviewed research or systematic reviews on myocardial sarcoid. None of the evidence that he presented against me was based on randomized trials, high-quality observational studies or even published practice guidelines, yet the judge saw fit to introduce his testimony as valid evidence to be considered by a lay jury. I conclude by proposing a voluntary system whereby expert witnesses would subject their reports to external peer review, much as is done at top-tier medical journals. Those experts who are able to have their reports pass peer review would be presented to the jury as having a greater level of credibility. (J Am Coll Cardiol 2002;40: 563–4) © 2002 by the American College of Cardiology Foundation

Three hours ago my trial almost ended. I say “almost” because the verdict is not yet in. The lawyers completed their closing statements and the judge gave the jurors her charge. She spoke to them about “evidence” and “credibility,” two terms that as a clinician, clinical scientist and editor of a major medical journal mean much to me.

Nine years ago I admitted a 41-year-old man with symptomatic high-grade heart block. Except for cannon A-waves his physical examination was unremarkable. A chest X-ray and multiple blood tests were normal. I put together a long differential diagnosis that, fortunately, I took the trouble to write into the chart. One of the many entities I entered was “sarcoid.”

An echocardiogram showed normal biventricular size and function along with mild left atrial enlargement and mildly increased tricuspid valve regurgitation velocity. I consulted an electrophysiologist who felt that premature degenerative conduction system disease was present. A pacemaker was inserted.

After his discharge, I transferred his care to my electrophysiologist colleague. I heard nothing more until three years later, when a lawyer wrote me that the patient had died suddenly. An autopsy found disseminated sarcoidosis. My colleague and I were sued for failure to make the diagnosis of cardiac sarcoidosis.

The case against us hinged on the testimony of one expert witness, a cardiologist who has been involved in more than 300 medical malpractice suits. He admitted to having never published a paper about cardiac sarcoidosis. He stated that we failed to appropriately manage this patient and argued that had we made the diagnosis we would have started steroids and prevented his sudden death.

In order to recover damage for medical malpractice, a plaintiff must show that a physician deviated from accepted standards of care, and that that deviation resulted in damages. Here, the issue was whether the patient’s ultimate sudden death could have been prevented had a diagnosis of myocardial sarcoidosis been made. Looking at this question with the mindset of a scientist and journal editor, there was no claim. There has never been a randomized trial of any kind of treatment for prevention of mortality due to myocardial sarcoidosis. This did come out during the trial, but only briefly.

When the testimony ended, the judge instructed the jurors to base their decision solely on evidence presented in court. They could decide that some of what a witness said was believable and that some was not. They could assess the credibility of a witness not just by what was said, but how it was said. Based on the credibility of the evidence, they were to decide whether or not we breached accepted standards of care and whether or not that breach resulted in damages.

My language of evidence include such terms as statistical power; corrections for multiple comparisons; appropriateness of assumptions of normality, proportional hazards and linearity; considerations of the effects of outliers; assessment of confounding and effect modification; and criteria for causality. These are terms of evidence that are widely accepted within the academic medical community and that are used by professional societies to develop practice guidelines.

My language of credible evidence does not include...
“expert” witnesses. I long ago abandoned the idea that a certain viewpoint must be correct simply because a respected professor says so. Does that mean there is no role for experts? Of course not! But experts are people who are active in ongoing research and who use our language of credible evidence to reach their conclusions, conclusions based on honest, peer-reviewed assessment of scientific data.

Some have suggested that expert testimony not based on peer review is a major reason why there is a major disconnect between clinical and courtroom science (1). Others have recommended that expert witnesses submit transcripts of depositions for formal peer review (2). I never thought much about this until I was sued and confronted with a totally alien kind of evidence that was to be evaluated by lay jurors. Our defense attorney stood before the jury and told them that “I believe in the jury system.” Well, I as a clinical scientist and medical editor wish to state here that I believe in the peer-review system.

I am well aware of the many problems with the medical malpractice system, about which much has been written (3,4). Using high-quality standards of clinical science evidence, the malpractice system has been shown to do a poor job of identifying negligence, of providing compensation for victims of medical injury and of deterring poor-quality care (5–7). I am not going to be yet another malpractice victim proposing sweeping changes.

But I do have one small suggestion. I would like to see a voluntary system whereby expert witnesses would have the opportunity to submit their pretrial reports for peer review. Peer reviewers would be chosen by professional societies (8) and would be compensated for their time by the involved law firms. As is the case with scientific publication, the peer-review process would be anonymous and confidential. Expert reports could be rejected as being highly unlikely to present correct conclusions or conditionally accepted based on adequate revision and answers to reviewers’ queries. Attorneys would have the right to enter an expert’s report into evidence whether or not it was submitted for peer review and what the results of that review were. Judges would be expected to explain to juries what peer review means and that expert reports that have cleared the rigor of peer review should be considered as having a higher degree of credibility.

I am now about to fly home after more than a week away. I can hardly wait to see my wife and children again and to return to the daily grind. Tomorrow I will likely find out the jury’s verdict.

POSTSCRIPT

My lawyer just called. After nine hours of deliberations the jury found that my electrophysiologist colleague and I were not negligent in our treatment of the deceased patient. They awarded no damages.

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REFERENCES