

IMAGING FOR PATIENT-CENTERED OUTCOMES



President
Jennifer H. Mieres, MD, FASNC^a

Contributing writer: Leslee J. Shaw, PhD, FASNC^b

In this ASNC President's Message, I would like to discuss the important and evolving field of patient-centered outcomes. Joining me in this discussion is the current Vice President of ASNC, Dr. Leslee Shaw from Emory University.

APPROPRIATE TESTING FOR EXCELLENT PATIENT OUTCOMES: WHY IT MATTERS?

Health care costs are spiraling out of control with more than \$1 billion annually in Medicare allowable charges for myocardial perfusion SPECT. Growth in imaging has been double that of all other physician services. A recent Government Accounting Office report contends a high rate of unnecessary or inappropriate testing. The repercussions of this have been a call for more robust clinical evidence to support current practice. That is, the Centers for Medicare & Medicaid Services (CMS) and other payers have issued a call for data focusing on how imaging improves patient outcomes. Although a large body of literature provides evidence for the diagnostic, prognostic, and incremental value of

stress myocardial perfusion SPECT, the unknown and unanswered question remains, "Are patients 'better off' because they have had a nuclear cardiology procedure?"

We believe that evidence as to the prognostic value of gated myocardial perfusion SPECT is substantial and exceeds that of any other imaging modality. Yet, as we look to the future of imaging, we are at a time where that level of evidence with nuclear imaging has to rise to another level. As described by Fryback and Thornbury in 1991, there are levels of diagnostic test evidence including: (1) technical quality, (2) diagnostic accuracy, (3) diagnostic impact (i.e., impact of a test on medical decision making), (4) therapeutic impact (i.e., impact of a test on therapeutic management), (5) patient outcomes, and (6) societal outcomes (i.e., cost effectiveness). Although the evidence with nuclear imaging has involved a rigorous evaluation of the cost and risk implications as well as in some cases its use in therapeutic decision making (e.g., COURAGE trial), we have yet to know if patients live longer or have a better quality of life because of undergoing our procedures. This is the new standard of evidence that Medicare and payers, such as Blue Cross/Blue Shield, require. So, what does this mean for the field of nuclear cardiology and how do we now move forward with garnering this higher level of evidence?

This focus on patient outcomes is indeed timely with President Obama's February 2009 stimulus package allocation of \$1 billion, which includes a focus on comparative effectiveness research. This new level of evidence must now state, when compared to other imaging modalities such as echocardiography or CT, how does nuclear imaging fare in terms of clinical outcomes. In this type of research, a strategy employing initial myocardial perfusion SPECT would be compared to initial testing using CT, for example, with the primary endpoint being all-cause mortality. In this way, we could truly differentiate which test elicits improvements in long-term outcomes. Thus, defining the term "comparative effectiveness research," which has been at the forefront of discussion with the recent economic stimulus package, will provide a means to devise this level of evidence for nuclear cardiology and all other imaging modalities.

From the Department of Medicine,^a New York University School of Medicine, New York, NY, USA; Emory University School of Medicine,^b Atlanta, GA, USA.

J Nucl Cardiol 2009;16:481-2

1071-3581/\$34.00

Copyright © 2009 by the American Society of Nuclear Cardiology.

doi:10.1007/s12350-009-9075-z

THE IMPACT OF RECENT CLINICAL TRIALS AND APPLICATIONS TO CLINICAL PRACTICE

We have seen a higher level of clinical trials evidence published recently, including the INSPIRE and COURAGE trials that highlight the importance of nuclear imaging to guiding therapeutic decision making. The INSPIRE trial identified candidates for aggressive medical therapy or revascularization of those who had a low-risk myocardial infarction yet a sizeable ischemic burden. In the COURAGE trial, percutaneous coronary intervention with optimal medical therapy resulted in a marked reduction in ischemic burden and improved symptoms as compared to intensive medical therapy alone. These trials represent landmark evidence as to the therapeutic impact of nuclear cardiology. Yet, they do not define the comparative effectiveness of nuclear cardiology as it relates to similar noninvasive tests.

WHAT IS NEEDED IN THE NUCLEAR CARDIOLOGY COMMUNITY?

The National Institutes of Health (NIH) and National Heart, Lung, and Blood Institute (NHLBI) recently explored supporting large clinical trials that study the comparative effectiveness of cardiovascular imaging modalities. NIH and NHLBI hosted a Think Tank on this subject last summer. Several members of the ASNC community, including Drs. Leslee Shaw and Daniel Berman, participated in the two-day workshop. Thus, we look forward to the development of high-quality clinical trials that have been the mainstay of comparative evaluations in other areas within cardiovascular medicine.

ASNC PLANS TO ADDRESS CLINICAL OUTCOMES IN IMAGING

What else is ASNC doing on this subject? There are plans to support research efforts in the field of comparative effectiveness; perhaps including Nuclear Cardiology Foundation statements on what is needed to establish patient-centered outcome improvements with nuclear imaging. We look to future and ongoing efforts to aid in the development of pilot and registry data evaluating this critical area of clinical research. Perhaps it is time to revamp our areas of not only supported research, but also educational areas so that members can become more widely versed in evaluating comparative effectiveness research. In this way, each ASNC member can interpret and drive quality imaging within their practice and guide regional health care policy that is evidence-based and driven by comparative effectiveness research.

This remains an exciting yet critical time for the future of cardiac imaging. There are numerous forces acting to restrain and curtail imaging to markedly reduced levels. We look forward to the development of comparative effectiveness research with nuclear but, in the interim, let current evidence on appropriate imaging guide your practice. Each of us must look to orchestrate a quality path forward in order to devise optimal patient-centered imaging strategies. In conclusion, I urge every ASNC member to (1) devise high quality standards for image quality and interpretation, (2) organize educational programs aimed at improving appropriate referral patterns, and (3) document efforts toward achieving quality with each of your payers so that they know you are on the path toward centering your practice toward your patient's best interest.

CALENDAR

Please note that the programs listed below are sponsored or cosponsored by the American Society of Nuclear Cardiology (ASNC). For more information, visit the ASNC Web site (<http://www.asnc.org/event.cfm>)

July 31–August 2, 2009. Nuclear Cardiology Board Exam Preparation Course. Baltimore, MD.

September 30–October 1, 2009. Nuclear Cardiology Board Exam Preparation Course. Minneapolis, MN.

September 30–October 1, 2009. Nuclear Cardiology for the Working Technologist—What I Need to Know. Minneapolis, MN.

October 1, 2009. Nuclear Cardiology for Nurses and Nurse Practitioners. Minneapolis, MN.

October 1–4, 2009. ASNC2009: The 14th Annual Scientific Session of the American Society of Nuclear Cardiology. Minneapolis, MN.

October 4, 2009. ASNC/ICANL Lab Accreditation Workshop. Minneapolis, MN.

November 13–14, 2009. Nuclear Cardiology Physics Course. Baltimore, MD.