
COMMENTARY

How to Strengthen Nuclear Medicine:

BUILD MORE BRIDGES TO REFERRAL BASE AND STOP PURSUING "GOLD STANDARDS"

There are many clinical collaborators who are very enthusiastic about making use of our nuclear medicine technology. We need to know enough about their specialties to understand the needs of their patients. We also need to work in true cooperation with other physicians to maintain their interest in nuclear medicine research and clinical studies. As long as we can bridge the gap between diagnostic medicine and other specialties, the field of nuclear medicine will hold its own in the health care world.



Dean F. Wong, MD

It's important that we strengthen our training and our self-image, and that we try harder to promote ourselves as a unified group. It's also important for our nuclear medicine colleagues to remain open-minded in pursuing seemingly competitive procedures. Skepticism toward new procedures still in the research stage is reflected in the commonly heard pessimistic statements predicting that these procedures will never become practical enough for routine clinical applications.

As an example, for several years only a small minority within the nuclear medicine field extolled the clinical possibilities of brain imaging with positron emission tomography (PET). While most members of the nuclear medicine community were dismissing those possibilities as "pie in the sky," excitement about PET brain imaging was being sparked in the neurology, neuroscience, and psychiatry communities. Many active investigators in PET brain imaging feel they receive more recognition from the above specialties than from their colleagues in nuclear medicine. I'm convinced that nuclear medicine professionals who concentrate on other specialties—cardiology, endocrinology, or oncology, to name a few—have experienced that same irony. The nuclear medicine community needs to start supporting its own people much more than it currently does if we are to survive as a strong and independent specialty.

We need to start thinking more in truly interdisciplinary terms, and we must work very carefully to keep up with the literature in other medical disciplines. During discussions with referring physicians, it's imperative that we ask questions and press for more simplified explanations of things that we don't understand. When psychiatrists consult with our department about PET procedures, for example, I always try to obtain some piece of information

(continued from page 1)

Stanley J. Goldsmith, MD, of the Mount Sinai Medical Center in New York City.

Sponsored by The Society of Nuclear Medicine (SNM) Education & Research (E&R) Foundation, the High Country Conference is dedicated to promoting professional interdisciplinary dialogue on the current status and future directions of diagnostic imaging. In addition to radionuclide

procedures and nuclear magnetic resonance (NMR), the program often includes presentations on other modalities.

Myocardial Perfusion with Ultrafast CT

Last year during the Seventh High Country Conference, for example, Stuart Rich, MD, of the University of Illinois College of Medicine in Chicago, spoke on the impact of

ultrafast x-ray computed tomography (CT) on cardiac imaging. In addition to anatomic studies, such as determinations of cardiac volume, myocardial perfusion studies are being conducted by assessing uptake and wash-out of contrast media with ultrafast CT, reported Dr. Rich. Ejection fraction and regional wall motion studies with ultrafast CT are also being evaluated.

The Eighth High Country Confer-

from them. Sometimes I say, "Look, if I could measure this for you, why would it be important? How could this measurement help you treat your patients better?" Nuclear medicine people, of course, have engaged in this type of interaction for years, but we need to be more aggressive about it—both from a scientific and clinical standpoint.

We also need to reevaluate the quest for a "gold standard," a nuclear medicine procedure that will provide a definitive diagnostic answer, which is detrimental for three reasons:

- It channels our investigators' efforts toward one ultimate answer to a diagnostic problem, and encourages the premature rejection of alternative solutions. PET researchers, for example, have often disparaged single-photon emission computed tomography (SPECT). The heated debate over the best bone densitometry method, as another example, has diverted attention from the actual clinical benefits of bone mineral measurements.

- The idea of depending on a gold standard is diametrically opposed to the type of diagnostic medicine that should be practiced as we introduce more and more sophisticated techniques of examining patients. To deliver the most complete and accurate health care possible, the results of a diagnostic test should serve as one piece of information that is integrated with several other results. The future diagnosis of mental illnesses, for example, could depend upon PET scan data, genetic information, family history, and the classical patient history and physical examination. In the future, perhaps, a physician may work with a check list of medical information to be gathered, and a certain combination of results would indicate an estimated probability that the patient has the suspected disease. Physicians today, of course, do correlate pieces of medical information to reach a conclusion, but this practice will require far more sophistication as nuclear medicine enables physicians to obtain more *in vivo* physiologic data.

- Our obsession with gold standards has encouraged third-party payers to deny reimbursement for procedures that do not serve as the single test that determines a diagnosis. I have heard people say, "If you can't prove that a patient has schizophrenia with a PET scan, then what good is it?" Similarly, part of the argument that third-party payers use to deny coverage to bone densitometry procedures centers around the doubt that bone mineral measurements alone can provide a negative or positive indication of osteoporosis or future bone fractures. Health care professionals, starting with the nuclear medicine community, need to educate third-party payers about the evolving approach to patient diagnosis that entails an assessment of several test results. We need to explain to third-party payers that a new test we have developed may be a little expensive now, but that it will get cheaper in the future and it plays a complementary role in identifying disease.

Admittedly, some diagnostic tests—such as the ventilation-perfusion lung scan to detect pulmonary embolism—do provide definitive answers about the absence of disease, and often about its presence. Our unrealistic expectations, however, for finding such gold standard tests for the intractable diseases that medical science is just beginning to understand are preventing patients from benefitting from some of the more recently developed nuclear medicine procedures.

Nuclear medicine has a bright future, and it will continue to provide valuable information for scientific as well as diagnostic advances. It will provide that information to far more physicians, however, if we actively work toward the integration of various medical specialties and of complementary patient data.

Dean F. Wong, MD,
The Johns Hopkins
Medical Institutions,
Baltimore, Maryland

ence, to be held March 13–18, 1988, will include a comparison of imaging modalities for the diagnosis of coronary artery disease. Other clinical topics include bone densitometry and various brain imaging techniques, such as metabolic, blood flow, and receptor-based studies.

Industry traditionally plays an integral role in the High Country program. This year, 13 of the 33 faculty members are from instrumentation or

radiopharmaceutical companies. One afternoon session, for example, will cover new radiopharmaceutical developments at Squibb, Du Pont, and Amersham. (Morning scientific sessions begin at 7:00 am; afternoon sessions are held late in the day, sometimes stretching into the early evening. Midday hours are reserved for cross country or downhill skiing.)

Since 1986, the last day of the High Country Conference has been devoted

to a panel discussion on regulatory affairs, moderated by James F. Lamb, PhD, of Imagents, Inc., in Houston, Texas. This spring, five representatives of the United States (US) Food and Drug Administration (FDA) will present information and answer questions. Thomas Hoffman, MD, of the FDA Office of Biologics Research and Review, will discuss "Monoclonal Antibody-Targeted Imaging: Safe-

(continued on page 4)