

2010 Capitol Hill Day

Leaders from SNM visited Capitol Hill on April 19 to discuss important issues relevant to the practice and science of nuclear medicine and molecular imaging. Led by SNM president Michael M. Graham, MD, PhD; SNM president-elect Dominique Delbeke, MD, PhD; and SNM vice-president-elect George M. Segall, MD, the group included more than 20 physicians, scientists, technologists, and SNM staff members. The first official joint nuclear medicine–related Capitol Hill Day was held in 2007, and response to this annual day of direct contact with legislators and staff has been overwhelmingly positive.

Among the action items that the SNM group promoted were:

(1) Legislation to ensure that appropriately performed nuclear medicine procedures are safe and readily available to patients, including requirements for accreditation and education in imaging. One immediate step would be support of H.R. 3652, the Consistency, Accuracy, Responsibility and Excellence in Medical Imaging and Radiation Therapy (CARE) Act, as a means to require those who perform medical imaging and radiation therapy procedures to meet minimum federal education and credentialing standards to participate in federal health programs administered by the Department of Health and Human Services.

(2) Elimination of the Sustainable Growth Rate (SGR) formula and development of permanent solutions for physician payment under Medicare Part B. The group emphasized that continuing to “paper over the issues with

budget gimmicks that provide short-term relief” will only make the problem worse.

(3) Support for \$30 million in funding for nuclear medicine research in the Fiscal Year 2011 Energy and Water Appropriations bill and assurances that such funding will be used for nuclear medicine research.

(4) Progress in ensuring access to vital medical radionuclides, particularly in creating a sustainable domestic supply through passage of HR 3276, the American Isotopes Production Act.

Each participant in Capitol Hill Day visited the offices of his or her own legislators. Robert W. Atcher, PhD, MBA, chair of the Joint SNM/American College of Nuclear Medicine Government Relations Committee; Jeffrey P. Norenberg, PharmD, chair of the SNM Commission on Radiopharmaceuticals; and Graham visited the offices of Representative Edward Markey (D-MA), who introduced HR 3276, the American Medical Isotopes Production Act in 2009. ✧



Barry L. Shulkin, MD, MBA; Dominique Delbeke, MD, PhD; and Todd E. Peterson, PhD, visit Capitol Hill.

From the RADAR Task Group

The RADAR task group continues to maintain significant resources on internal dose assessment and to develop new models, data, and tools to standardize and facilitate this science for users. The group maintains an Internet Web site (www.doseinfo-radar.com) that contains much of the available data for immediate use and download and has several interactive tools that can be used for data lookup and new calculations. Recent activities and advances include:

(1) Completion of a large standardized phantom development project that represents a generational advance in these models, including: 12 adult and pediatric models (male and female at 6 ages) based on newly recommended reference masses by the International Commission on

Radiological Protection (1); 3 models representing the female at different stages of gestation (2); 8 adult male and female models representing larger and smaller normal-weight individuals (3); 2 adult male models representing different degrees of obesity (4); and 8 models representing smaller and larger mice and rats (5).

(2) Continued emphasis on the need for more realistic modeling of the dose to family members and others from released nuclear medicine therapy patients. RADAR members: published an invited commentary in *Health Physics News*, advocating a more scientifically based and patient-friendly approach to patient release (6) and a second commentary on recently released guidelines on patient release by
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istry (2010;82:2621–2625) on an approach to tissue characterization based on matrix-assisted laser desorption ionization time-of-flight mass spectrometry imaging (MSI), introduced in an attempt to develop a reference database for predictive classification and differentiation of meningiomas. The pilot study was conducted on 5 recurrent and progressive meningiomas for which surgical specimens were available from original and progressed grades. These were tested with the MSI technique and compared with results from nonprogressive high-grade meningiomas, high-grade gliomas, and nontumor brain specimens. The common profiling approach of data acquisition was compared with MSI results, which showed significant benefits in yielding spatially resolved acquisition for improved spectral definition. A preliminary classifier showed the ability to distinguish meningioma image spectra from nontumor brain and from gliomas and to enable class imaging of surgical tissue. The authors concluded that “although the development of classifiers was shown to be sensitive to data preparation parameters such as recalibration and peak picking crite-

ria,” these results also “suggested the potential for maturing into a predictive algorithm if provided with a larger series of well-defined cases.”

Analytical Chemistry

REVIEWS

Review articles provide an important way to stay up to date on the latest topics and approaches by providing valuable summaries of pertinent literature. The Newline editor recommends several reviews accessioned into the PubMed database in late March and April. An entire issue of *Current Topics in Medicinal Chemistry*, which appeared online on April 13 before publication, focused on reviews of nuclear medicine topics, including “PET designated fluoride 18 production and chemistry,” “C-11 radiochemistry in cancer imaging applications,” “PET with nonstandard nuclides,” “The medicinal chemistry of theragnostics, multimodality imaging, and applications of nanotechnology in cancer,” and “Noninvasive cell tracking in cancer and cancer therapy.” Other reviews of note included: “Nuclear imaging of autoimmunity: focus on

IBD and RA” by McBride from Amgen, Inc. (Thousand Oaks, CA) published on April 14 ahead of print in *Autoimmunity*; “Imaging ovarian cancer and peritoneal metastases—current and emerging techniques,” by Kyriazi et al. from the Institute of Cancer Research and Royal Marsden National Health Service Foundation Trust (Sutton, UK) published on April 14 ahead of print in *Nature Reviews. Clinical Oncology*; “Neuropathic pain and neuroplasticity in functional imaging studies” [in German] by Maihöfner et al. from the Neurologische Klinik der Universität Erlangen-Nürnberg (Germany) in the April issue of *Schmerz* (2010;24:137–145); “Studies on cerebral processing of pain using functional imaging : Somatosensory, emotional, cognitive, autonomic and motor aspects” [in German] by Valet et al. from the Technische Universität München (Germany) on pages 114–121 of the same issue of *Schmerz*; and “Emerging roles for multimodal optical imaging in early cancer detection: a global challenge,” by Bedard et al. from Rice University (Houston, TX) in the April issue of *Technology in Cancer Research and Treatment* (2010;9: 211–217).

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the International Atomic Energy Agency (7); developed a Web-based interactive tool for calculation of doses from released patients (www.doseinfo-radar.com/ExposureCalculator.html), supported by several guidance and training documents; and completed research on a comparison of point, line, and realistic voxel-phantom representation of patients. The work has been submitted for publication.

(3) RADAR has developed a review manuscript on renal dosimetry for peptide receptor radionuclide therapy (PRRT), reviewing results and methods of several authors and recommending that the research community continue to gather data and proceed with more critical evaluation of different dosimetric quantities in the management of nephrotoxicity in PRRT.

(4) RADAR will present 2 continuing education sessions at the SNM Annual Meeting this month: “Dose Estimation and Reduction in PET/CT Imaging” and “New Internal Dose Models—Evaluation and Impact.”

REFERENCES

1. International Commission on Radiological Protection. *Basic Anatomical and Physiological Data for Use in Radiological Protection: Reference Values*. ICRP Publication 89. Elsevier Health; 2003.
2. Xu XG, Shi C, Stabin MG, Taranenko V. Pregnant female/fetus computational phantoms and the latest RPI-P series representing 3, 6, and 9 months gestational periods. *Handbook of Anatomical Models for Radiation Dosimetry*. Boca Raton, FL: CRC Press; 2009:305–336.
3. Marine PM, Stabin MG, Fernald MJ, Brill AB. Changes in radiation dose with variations in human anatomy: larger and smaller normal-stature adults. *J Nucl Med*. 2010; e-published ahead of print on April 15.
4. Clark L, Stabin MG, Segars WP, Fernald MJ, Brill AB. Changes in radiation dose with variations in human anatomy: moderately and severely obese adults. *J Nucl Med*. 2010; in press.
5. Keenan MA, Stabin MG, Segars WP, Fernald MJ. RADAR realistic animal model series for dose assessment. *J Nucl Med*. 2010;51:471–476.
6. Siegel JA, Stabin MG. Nuclear medicine patient release via the Moses algorithm: Let my people go. *Health Phys News*. 2010(Feb):14–17.
7. Siegel JA, Stabin MG. RADAR response to IAEA position statement on nuclear medicine patient release. *Health Phys News*. 2010(May): in press.

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