Winter 2006 Edition

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President’s Message
SNM finally appears to be placing greater emphasis on the role of the councils within the society. As the current president of the Cardiovascular Council (CVC), I would like to strengthen our voice within the society and thereby promote the interests of our council membership. The CVC should be a resource for the SNM to promote research and education in cardiovascular nuclear medicine and to provide outreach to other professionals and organizations interested in cardiovascular imaging. The SNM is unique in including members from many communities, including cardiovascular medicine, radiopharmaceutical and computer sciences, physics, engineering, and molecular biology. We must build bridges between the councils that share our interests in order to promote the growth of cardiovascular nuclear imaging. The future of cardiovascular nuclear imaging rests in the advancement of molecular imaging and the application of hybrid imaging technology. The advancement of our field will be best accomplished by strengthening the interaction of the CVC with the Radiopharmaceutical Sciences and Computer and Instrumentation Councils, as well as the SNM Learning Center, and the PET and Molecular Imaging Centers of Excellence.

We must also strengthen our ties with other societies interested in cardiovascular imaging, particularly the American Society of Nuclear Cardiology (ASNC), American Heart Association (AHA), Academy of Molecular Imaging (AMI), and Society of Molecular Imaging (SMI).

Under the leadership of Dr. Marcelo Di Carli, the application of cardiac PET/CT was advanced in part by the initiation of a series of educational and training programs. The first CVC-sponsored 2-day program dedicated to cardiac PET/CT was held in Boston last September, with the aid of the SNM Learning Center. This program was well attended and received tremendous reviews. We must continue with this effort. We must also consider the role of CT angiography in our practice of cardiovascular imaging. The future clinical application of CT angiography will be dependent on the association of this rapidly growing technology with hybrid PET/CT and SPECT/CT imaging. Therefore, we must promote education in these areas as well. The growth of these hybrid-imaging technologies for application in cardiovascular disease will require training and certification of nuclear technologists and physicians. This remains a highly controversial issue that physician and technologist members within CVC must get involved with immediately. CVC should play a critical role within SNM in relation to the development of SNM’s position on this growing problem.
The CVC must promote and advance the field of cardiovascular molecular imaging. In order to accomplish this important goal, we need to educate the community about the role of targeted molecular imaging and establish multidisciplinary training fellowships in this area.

During the SNM Mid-Winter Meeting, we will participate in the program created by the new Molecular Imaging Center of Excellence. Our contribution will highlight the important role of molecular imaging in the evaluation of cardiovascular disease. CVC will also sponsor a program on Radiotracer Imaging of Patients with Congestive Heart Failure (CHF). The program will include a series of lectures that emphasize the role of new molecular imaging approaches for evaluation of the ever-growing population of patients with CHF. An additional program in cardiovascular molecular imaging is planned for the 2006 Annual Meeting in collaboration with the Radiopharmaceutical Council. A CVC-sponsored program in cardiovascular molecular imaging is also planned for the anticipated combined 2007 meetings of the SMI and AMI.

We must encourage young scientists from multiple disciplines to focus on issues relevant to cardiovascular molecular imaging. One way to entice new investigators in this area is to establish training fellowships. Over the next year we will try to establish two annual training fellowships. One of these fellowships, to be created in collaboration with the Radiopharmaceutical Sciences Council, will focus on training young radiochemists to work specifically in the area of cardiovascular molecular imaging. We hope to also establish a second, similar fellowship in collaboration with the Computer and Instrumentation Council. These fellowships might be funded through the Education and Research Foundation or the Molecular Imaging Center of Excellence. Many other fellowship and grant awards are currently available through the SNM, and we must encourage the young members of our council to apply for these awards. The full list of grant and fellowship awards currently offered by the SNM can be seen on the SNM Web site.

In order to encourage interaction and collaboration of the membership of the CVC with other societies, we have already established a speaker exchange program with ASNC. One goal of this exchange program is to provide ASNC with speakers having expertise in areas of the radiopharmaceutical sciences and instrumentation. In exchange, ASNC will support the participation of ASNC leaders with expertise in clinical cardiovascular imaging at CVC-sponsored seminars and tutorials.

CVC must also assure the highest-quality cardiac nuclear imaging and the appropriate utilization of nuclear imaging in the evaluation of patients with cardiovascular disease. ASNC is currently working on clarifying the recently published recommendations of the American College of Cardiology Foundation (ACCF) and ASNC: “Appropriateness Criteria for Single-Photon Emission Computed Tomography Myocardial Perfusion Imaging (SPECT MPI).” This report was the first in a series of planned technical documents to critically and systematically document, review, and categorize appropriateness criteria for cardiovascular diagnostic tests and procedures utilized by cardiologists in their everyday clinical practice. As members of CVC, we must participate in the review and clarification of this and future documents related to the appropriate application of cardiovascular nuclear imaging procedures. I would like to create a committee within our council that will formally collaborate with members of ASNC to address this issue. I would strongly encourage participation of members of the CVC in this collaborative initiative.

I hope that during future years CVC will continue to thrive and grow and that we can strengthen our position and voice within the SNM in order to promote cardiovascular nuclear research, education, and optimal care of our patients with cardiovascular diseases. This can happen only with active participation of CVC membership. I encourage all members to get involved with the programs currently under development and look for suggestions regarding new programs and initiatives to promote the growth of our field.

Albert J. Sinusas, MD
President, CVC

CVC Elections and Membership Update
The results of the 2005 elections for the leadership of the Cardiovascular Council are as follows:

President-Elect: Mark I. Travin, MD
Vice President-Elect: Diwaker Jain, MD
Secretary: April Mann, CNMT, RT(N), NCT
Treasurer: Danny Basso, CNMT, NCT
Board of Directors:
James A. Arrighi, MD
Frank M. Bengel, MD
Mehran M. Sadeghi, MD

Members of the Cardiovascular Council include physicians, scientists, and technologists. As of June 2005, there were 593 total members in the Cardiovascular Council (382 full, 169 technologists, 24 associate technologists, nine associate, five emeritus, and four affiliate members).

Maintenance of Certification Update
Maintenance of certification (MOC) is replacing recertification as a more complete program to assure continuation of
quality of nuclear medicine practice. The American Board of Medical Specialties has recently approved the MOC plan of the American Board of Nuclear Medicine (ABNM), which will be implemented in 2006 for ABNM diplomates. Basically, there are four components to the MOC program: 1) professional standing (provided by an unlimited medical license); 2) lifelong learning and self-assessment (periodic self-assessment process to guide continuing learning); 3) cognitive expertise (ABNM recertification examination); and 4) performance in practice evaluation (evaluation of performance in practice). In reference to part 2 (lifelong learning and self-assessment), self-assessment will be documented by obtaining self-assessment CME credits. The SNM has developed a Lifelong Learning and Self-Assessment Program (LLSAP) that will fulfill part 2 of the ABNM’s MOC requirement and has begun to post self-assessment modules on the SNM Web site (www.snm.org/llsap).

In particular reference to nuclear cardiology, two self-assessment modules have been developed that relate to cardiovascular imaging. The first of these two modules is entitled “Cardiovascular SPECT and PET” (Elias Botvinick, MD, Vice-Chair). This module contains three sections, including “SPECT Myocardial Perfusion” (authors: Elias Botvinick, MD, and Quynh Truong, MD), “Myocardial Function” (authors: Elias Botvinick, MD, and Quynh Truong, MD), and “PET Myocardial Perfusion” (authors: Josef Machac, MD; Dominique Delbeke, MD, PhD; and Marcelo F. Di Carli, MD). The second module is titled, “Cardiovascular CT and Hybrid Imaging” (authors: Dominique Delbeke, MD, PhD, and Marcelo F. Di Carli, MD). Both of these modules are scheduled for release in the first quarter of 2006. A more detailed review of the ABNM MOC program will be presented in the upcoming ABNM newsletter.

Report on the 52nd Annual Meeting of the SNM

The 52nd Annual Meeting of the Society of Nuclear Medicine was held on June 18–22, 2005, at the Metro Convention Center in Toronto, Ontario, Canada. Nuclear cardiology was well represented at the meeting with categorical seminars, continuing education courses, and numerous scientific paper and poster presentations related to cardiovascular nuclear imaging.

Categorical Seminar

The Cardiovascular Council sponsored a full-day categorical seminar entitled “Cardiovascular Molecular Imaging: A View to Clinical Applications” on Saturday, June 18. This seminar, which was organized by Albert Sinusas, MD; moderated by Mehran M. Sadeghi, MD; and co-moderated by Joseph C. Wu, MD, PhD, was well attended. The program provided an introduction to cardiovascular molecular imaging and potential clinical applications of molecular imaging in the management of cardiovascular disease. The program concentrated on the evaluation of novel stem cell therapies and imaging of atherosclerosis and vascular remodeling, including an introduction of the underlying molecular and physiology related to those topics and an overview of the critical biological issues and potential clinical implications. The seminar focused on radiotracer imaging with SPECT, PET, and hybrid systems. Molecular imaging approaches were compared with more conventional imaging of the related physiologic processes. Limitations and challenges of cardiovascular molecular imaging were presented. Speakers for this seminar included: Doris Taylor, PhD; King Li, MD; Jeff Bulte, PhD; Joseph C. Wu, MD, PhD; Jagat Narula, MD, PhD; Benjamin M. Tsui, PhD; Marcelo F. Di Carli, MD; Sam Tsimikas, MD; Mehran M. Sadeghi, MD; Gregory Lanza, MD, PhD; and H. William Strauss, MD.

Continuing Medical Education Courses

Continuing medical education courses were offered daily during the Annual Meeting. Organized by the CVC under the direction of Marcelo Di Carli, MD, the following courses related to cardiovascular nuclear imaging were presented at the Annual Meeting:

“How to Perform and Apply Attenuation Correction in Clinical SPECT Imaging—Interactive ‘Read with the Experts’ Session”; “Early Detection of Coronary Atherosclerosis (in association with the Japanese Society of Nuclear Medicine)”; “Performing and Interpreting Cardiac PET and PET/CT Imaging—Interactive ‘Read with the Experts’ Session”; “Interpreting ECG-gated Myocardial Perfusion Imaging: Common and Challenging Cases—Interactive ‘Read with the Experts’ Session”; “Fundamentals of Cardiac PET Imaging”; “Role of SPECT, Coronary CT, and PET/CT in the Diagnosis and Management of CAD”; “Identifying Viability and Predicting Therapeutic Benefit in Patients with Heart Failure—Interactive ‘Read with the Experts’ Session”; “Chest Pain Evaluation in the Emergency Department”; “Evaluating Clinical Risk and Guiding Management with Nuclear Cardiology”; “Advanced Cardiac Imaging: Multi-Detector CT and 3-D PET Imaging”; and “Pharmacologic Stress Testing Agents and Methods—Current Status and Future Promise.”

SNM Press Conference: Cardiovascular Announcements

The SNM press conference was held on June 20 at the Annual Meeting. Scientific findings and news from selected nuclear cardiology abstracts were announced to the press by Joseph Machac, MD, vice chair for the cardiovascular track. The following abstracts were reported at the press conference: “Hybrid PET/CT for Functional/Biological Characterization of Myocardial Molecular Interventions—A Multi-Tracer Study in a Pig Model of..."
Cardiovascular Young Investigator Awards

The 16th Cardiovascular Young Investigator Competition was held on Sunday, June 19, 2005. The purpose of this competition is to recognize research by investigators of any age currently enrolled in, or within five years of completion of, a certified training program and to encourage the pursuit of a career in cardiovascular nuclear imaging. Contestants’ presentations were judged on the basis of scientific merit, organization, practicality, presentation style, and technical quality. From the abstracts submitted for the Young Investigator Competition, the three highest-rated clinical science abstracts and the three highest-rated basic science abstracts were selected for the competition. The Cardiovascular Young Investigator Awards Symposium was moderated by Albert Sinusas, MD, and co-moderated by Marcelo F. Di Carli, MD. Separate awards were given for abstracts presented in the basic science category and those presented in the clinical science category. The first place award in each category was $300 and a certificate. The second place award in each category was $200 and a certificate.

The first place award in the clinical science category was presented to Thomas H. Schindler, MD, David Geffen School of Medicine, University of California—Los Angeles, for “Angiotensin Receptor Blockade in Patients with Impaired Glucose Tolerance Reverses Abnormal Endothelium-Dependent Coronary Vasomotion as Monitored by PET.”

The first place award in the basic science category was presented to Bettina Wagner, DVM, from Nuklearmedizinische Klinik der TU Munchen, Munich, Germany for “Hybrid PET/CT for Functional/Biological Characterization of Myocardial Molecular Interventions—A Multi-Tracer Study in a Pig Model of Adenoviral VEGF Gene Transfer.”

The second place award in the clinical science category was presented to Takahiro Higuchi, MD, PhD, from Nuklearmedizinische Klinik der TU Munchen, Munich, Germany, for “Effects of the Angiotensin Receptor Blocker Val- 
sartan on Microvascular Reactivity in Moderately Hypertensive Patients with Stable Coronary Artery Disease.”

The second place award in the basic science category was awarded to Willm U. Kampen, MD, MS, Clinic of Nuclear Medicine, University Hospital, Schleswig-Holstein, Kiel, Germany. His presentation was titled “Imaging of Acute Heart Transplant Rejection Using 99mTc-Labeled Oligonucleotides Against IL-2 mRNA in a Rat Model.”

The Cardiovascular Council extends congratulations to these winners of the Young Investigator Awards and to all six of the contestants for being selected for this year’s competition. The Cardiovascular Council encourages eligible investigators to submit nuclear cardiology abstracts to the next Young Investigator Competition, which will be held in conjunction with the next SNM Annual Meeting, June 3–7, 2006, in San Diego, CA. Each of the six finalists chosen for the 2006 Young Investigator Competition (three clinical science and three basic science) will receive complimentary registration for the SNM meeting and $1,000 in travel expenses. First place awards will be $500, and second place awards will be $250.

Herman L. Blumgart Award

The cardiovascular scientific sessions of the 2005 Annual Meeting featured the Herrman L. Blumgart scientific session on Sunday, June 19, immediately following the Young Investigator Awards Symposium. During this session, the three highest-rated clinical and basic science abstracts, other than those designated for the Young Investigator Awards Symposium, were presented, followed by the Herrman L. Blumgart Award Lecture. Dr. Blumgart was a pioneer in cardiovascular nuclear medicine in the early part of the 20th century. As a result of Dr. Blumgart’s studies in physiology with radionuclides, including the measurement of circulation time in rabbits, he is considered the “father” of physiological nuclear medicine and of nuclear cardiology in particular. In his honor, the Herrman L. Blumgart Award was established by the New England Chapter of the SNM and was first presented in 1978. Since 1989, the Blumgart award has been presented by the Cardiovascular Council of the SNM. This award is the highest award granted by the SNM in the cardiovascular field and is given to an individual in recognition for outstanding scientific contributions to the field of nuclear cardiology. The Blumgart Award session was moderated by Marcelo F. Di Carli, MD, and co-moderated by Albert J. Sinusas, MD.

The recipient of the 2005 Herrman L. Blumgart award was Stephen L. Bacharach, PhD, currently visiting professor of radiology, University of California—San Francisco. Dr. Bacharach’s illustrious career in medical
imaging began in the 1970s. He was an early nuclear cardiology pioneer in establishing EKG gated equilibrium radionuclide ventriculography for clinical use. He was instrumental in defining quantitative nuclear cardiology and creating a foundation for the subsequent development of cardiovascular image analysis. Following the presentation of the Blumgart Award, Dr. Bacharach presented a lecture that reviewed the evolution of quantitation in nuclear cardiology from the analysis of left ventricular function up to the current state of the art in quantitative analysis using SPECT and PET. Discussing the concepts of relative assessments of cardiovascular images, as compared to quantitative analyses, Dr. Bacharach urged his audience to keep the spirit of Herman Blumgart alive by continuing to make better measurements in cardiovascular imaging that can lead to new knowledge and new clinical tools. The Cardiovascular Council acknowledges and appreciates Dr. Bacharach’s dedication and contributions to the field of nuclear cardiology and congratulates him for being chosen as the recipient of the 2005 Herman L. Blumgart award.

Preview of the 2006 Mid-Winter Educational Symposium

The 2006 SNM Mid-Winter Meeting and Educational Symposium will be held February 11–12 at The Wyndham Buttes Hotel in Tempe, AZ. At the meeting CVC will sponsor a symposium on cardiac imaging entitled “Radiotracer Imaging in Congestive Heart Failure” on Saturday, February 11. Organized by Albert J. Sinusas, MD, this program will focus on basic and clinical issues as they relate to cardiovascular imaging in patients with congestive heart failure (CHF). Moderators for this course will be Mark I. Travin, MD, and Albert J. Sinusas, MD. Comod- erators will be James A. Arrighi, MD, and Mehran M. Sadeghi, MD. The symposium will be divided into two separate sessions.

The first session, which will be held from 2:00 to 5:00 PM, will include lectures that will focus on the clinical applications of imaging (scintigraphy, CT, and MRI) in CHF. Scheduled speakers and topics for the first session include: Manuel D. Cerqueira, MD, on “General Overview of CHF and Nuclear Imaging”; Frank M. Bengel, MD, on “MR Assessment of Viability”; Elias H. Botvinick, MD, on “The Importance of Imaging Ventricular Synchrony: Suitability of Nuclear Methods”; Marcelo F. Di Carli, MD, on “Distinguishing Ischemic from Non-ischemic Cardiomyopathy: Role of Hybrid PET/CT”; Mark I. Travin, MD, on “Imaging of MIBG”; and Rory Hachamovitch, MD, on “Outcomes in CHF: Role of Radiotracer Imaging.”

The second session, which will be held from 6:00 to 9:00 PM, will focus on the role of molecular imaging in the evaluation and management of patients with CHF, including radiochemistry issues related to imaging of stem cells and targeted imaging in CHF (e.g., receptor imaging, angiogenesis, and matrix metalloproteinases). Scheduled speakers and topics for the second session include the following: Loren Field, PhD, on “Overview of Stem Cell Therapy and CHF”; Joseph C. Wu, MD, PhD, on “Imaging of Stem Cells”; Vasken Dilsizian, MD, on “Imaging of Angiostatin Receptor”; Albert J. Sinusas, MD, on “Imaging of MMP Activation”; Wawrzyniec L. Dobrucki, PhD, on “Imaging of Angiogenesis Post-MI”; and Jeanne M. Link, PhD, on “PET Imaging of Adrenergic Receptors.” Both sessions will conclude with panel discussions.

Other presentations related to cardiovascular nuclear imaging that will be given at the Mid-Winter Meeting include three presentations in the seminar titled “Molecular Imaging: Development of Novel Probes,” which will be held on Saturday, February 11, from 9:30 AM to 1:00 PM (organized by the SNM Molecular Imaging Center of Excellence and the Radiopharmaceutical Sciences Council). Speakers and cardiovascular related topics for this session are: Frank M. Bengel, MD, on “Cardiovascular Applications—Receptor Probes”; H. William Strauss, MD, on “Cardiovascular Applications—Imaging Atherosclerosis”; and Mehran M. Sadeghi, MD, on “Cardiovascular Applications—Imaging of Vascular Remodeling.” In addition, two cardiovascular related presentations will be given during the seminar titled “Clinical Implementation of Advanced Image Processing and Reconstruction Algorithms,” which will be held on Saturday, February 11, from 10:00 AM to 1:00 PM (organized by Mark T. Madsen, PhD). Speakers and cardiovascular related topics for this session are: Salvador Borges-Neto, MD, on “Wide Beam Reconstruction Method for Shortening Scan Time of Gated Cardiac SPECT Perfusion Studies: A Preliminary Clinical Evaluation”; and Richard W. Myers, MD, and Jody Garrad on “Fast, High Quality Cardiac SPECT Using Astonish Reconstruction.”

Technologist Section Report on the 2005 Annual Meeting

The nuclear cardiology technologist categorical session entitled “Understanding the Basics of Nuclear Cardiology,” was held on Saturday, June 18. The following topics were included: “ECG: Practical Aspects for Performing Exercise and Pharmacologic Stress Tests”; “Current SPECT Myocardial Perfusion Imaging Protocols”; “Quality Control, Learn When and What

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to Evaluate”; and “Overview of Pharmacologic Stress Protocols: Indications, Attributes and Adverse Effects.” The nuclear cardiology technologist continuing education session was held on Monday, June 20. Session titles included: “Nuclear Cardiology: More than SPECT MPI”; “Nuclear Cardiology Part II”; and “Nuclear Cardiology Part III.” Overall, these sessions were well attended and were a success.

Cardiovascular Council Technologist Awards were presented. The $300 first place award was presented to Royce L. Rutler and Michael K. O’Connor for “Effect of Table Support on the Accuracy of the Alignment Between the SPECT and CT Images in Myocardial Perfusion Studies on a GE Hawkeye System” (abstract 1703). The $200 second place award went to Kirshnan Prabakaran, Narendra Singh, Lary V. Crisco, Fazel Baig, and Terri McCallister for “Effect of Image Quality and Symptoms Tolerance on Low-level Exercise with Adenosine Infusion” (abstract 1702). The $200 third place award went to Michael P. White, Denise M. Emerson, Robert M. Smith, and Thomas I. Knox for “The Addition of Low-level Treadmill Exercise Reduces the Time Between Injection and Imaging for Patients Undergoing Adenosine Rest/Stress SPECT Myocardial Perfusion Imaging with Tc-99m Sestamibi” (abstract 1701). Congratulations to all of these technologists for their excellent work and presentations at the Annual Meeting.

There was a decrease in the number of technologists’ abstracts related to nuclear cardiology submitted to the 2005 SNM Annual Meeting. I would like to encourage the nuclear medicine technologists to work on submitting abstracts for the next meeting in San Diego.

Robert Pagnanelli, BSRT(R)(N), CMNT, NCT

Future Meetings

The 2006 Mid-Winter Educational Symposium will be held February 11–12 at the Wyndham Buttes Hotel in Tempe, AZ. A variety of technologist lectures are planned, including topics on nuclear cardiology and PET/CT. Lectures planned by the SNM Technologist Section include the following:

“Truly Understanding MPI—Not Just Pushing the Buttons” by David Gilmore, CNMT, RT(R)(N); “Myocardial Perfusion: Moving from SPECT to PET” by April Mann, CNMT, RT(N), FSNMTS; “Advanced Practice: A New Career Ladder in Nuclear Medicine Technology” by Martha W. Pickett, CNMT, FSNMTS; “Instrumentation in PET/CT” by Paul E. Christian, BS, CNMT; “Radiation Safety and Patient Protocols in PET/CT” by Nancy M. Swanston, CNMT, RT(N); “PET Applications in Radiation Therapy Planning and Assessing Treatment Response” by Sue Minerich, CNMT; “Yttrium-90 Radioembolization for the Treatment of Hepatocellular Carcinoma and Metastatic Disease to the Liver” by Vanessa L. Gates, MS; and “Gallium 67—Tried and True” by Frances L. Neagley, BS, CNMT, FSNMTS.

The next SNM Annual Meeting will be held June 3–7, 2006, in San Diego, CA. Planning for the technologists’ sessions for this meeting is currently taking place.

About the Society of Nuclear Medicine Cardiovascular Council

The Cardiovascular Council consists of members of the Society of Nuclear Medicine who are interested in the performance and application of cardiovascular nuclear medicine procedures. CVC seeks to provide a forum for discussion and development of cardiac scintigraphic methods in an effort to realize the most beneficial applications. CVC actively seeks individuals who share this goal.