The Journal of Nuclear Medicine

Official Publication of The Society of Nuclear Medicine

Volume 28, Number 7
July 1987

THE JOURNAL OF NUCLEAR MEDICINE (ISSN 0161-5505) is published monthly by The Society of Nuclear Medicine, Inc., 136 Madison Avenue, New York, NY 10016-6760. Second Class Postage paid at New York, NY and additional mailing offices. Postmaster: send address changes to The Journal of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760.

EDITORIAL COMMUNICATIONS should be sent to the Editor: Thomas P. Haynie, MD, The Journal of Nuclear Medicine, Office of Special Publications, The University of Texas M. D. Anderson Hospital, 6723 Bertner Avenue, Houston, TX 77030 (713)792-6015. Books and monographs covering the use of nuclear medicine and its allied disciplines will be reviewed as space is available. Send review copies to the Editor.

BUSINESS COMMUNICATIONS concerning advertising, subscriptions, change of address, and permission requests should be sent to the publisher, The Society of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760 (212)889-0717. Advertisements are subject to editorial approval and are restricted to products or services pertinent to nuclear medicine. Advertising rates are available from the publisher. Closing date is the first of the month preceding the date of issue.

SUBSCRIPTION RATES for 1987 calendar year are $120 within the United States; $130 for Canada and Pan American countries; $150 elsewhere. Student subscriptions are $70 (with proof of student status). Single copies $10.00; foreign $11.00; convention issue (April) $12.00; foreign $13.00. Make checks payable, in U.S. dollars drawn on U.S. banks, to The Society of Nuclear Medicine. Notify the Society of change of address and telephone number at least 30 days before date of issue by sending both the old and new addresses.

COPYRIGHT © 1987 by The Society of Nuclear Medicine, Inc. All rights reserved. No part of this work may be reproduced or translated without permission from the copyright owner. Because the copyright on articles published in The Journal of Nuclear Medicine is held by the Society, each author of accepted manuscripts must sign a statement transferring copyright. See Information for Authors for further explanation, which appears on the second page preceding the Calendar.

SNM NEWSLINE

EPA Guideline for Indoor Radon Levels Evokes
Response from Nuclear Medicine; Experts Debate
Cost/Benefit Analysis and Epidemiologic Studies

Betsy Hanson .......................................................... 1087

Radon Gas and Radon Daughters Pose Potential
Environmental Hazard; Polonium-218 and Polonium-214,
Radon Progeny, Linked to Lung Cancer

David R. Brill ......................................................... 1095

Commentary: Lines from the President:
SNM 1986–1987 Year in Review

Howard J. Dworkin ............................................... 1099

Maleah Grover-McKay Selected by E&R Foundation
for 7th Tartman Memorial Award

Linda E. Ketchum .................................................... 1100

News Briefs: PET/SPECT Symposium at
European Nuclear Medicine Congress 1987
in Budapest, Hungary ........................................... 1102

CLINICAL SCIENCES

Patterns of Gallium-67 Scintigraphy in Patients with
Acquired Immunodeficiency Syndrome and the
AIDS Related Complex

Jacob Bitran, Carlos Bekerman, Robert Weinstein, Charles Bennett,
U. Ryo, and Steven Pinsky ......................................... 1103

Gallium-67 Scans of the Chest in Patients with
Acquired Immunodeficiency Syndrome

Elissa Lipcon Kramer, Joseph J. Sanger, Stuart M. Garay,
Jeffrey B. Greene, Serafin Tiu, Howard Banner,
and Dorothy I. McCauley ........................................... 1107

Serum TSH, Thyroglobulin, and Thyroidal Disorders
in Atomic Bomb Survivors Exposed in Youth:
30-Year Follow-Up Study

Isao Morimoto, Yasuhiro Yoshimoto, Kenshi Sato,
Howard B. Hamilton, Sadahisa Kawamoto, Motomori Izumi,
and Shigenobu Nagataki ........................................... 1115

Metabolic and Hemodynamic Evaluation of Gliomas
Using Positron Emission Tomography

J.L. Tyler, M. Diksic, J-G. Villemure, A.C. Evans,
E. Meyer, Y.L. Yamamoto, and W. Feindel .................. 1123

Renal Arteriovenous Transit Times of
Technetium-Radiolabeled Chelates

Gary R. Conrad, Carl A. Wesolowski, Kevin S. Berbaum,
Karen C. Jensen, and Peter T. Kirchner ..................... 1134

BASIC SCIENCES

Quantification of Regional Ventilation in Humans
Using a Short-Lived Radiotracer—
Theoretical Evaluation of the Steady-State Model

Sven O. Valind, Christopher G. Rhodes, and Bjorn Jonson .... 1144
Skeletal Muscle Blood Flow In Vivo: Detection with Rubidium-82 and Effects of Glucose, Insulin, and Exercise
Kurt A. Mossberg, Nizar Mullani, K. Lance Gould, and Heinrich Taegtmeyer ........................................ 1155

No-Carrier-Added N-(3-[F]Fluoropropyl)spiroperidol: Biodistribution in Mice and Tomographic Studies in a Baboon
Chyng-Yann Shiue, Lan-Qin Bai, Ren-Rui Teng, Carroll D. Arnett, and Alfred P. Wolf .......................... 1164

Captopril Renography in Two Kidney and One Kidney Goldblatt Hypertension in Dogs
Joseph V. Nally, Jr., Harry S. Clarke, Jr., Bharat K. Gupta, Michael L. Gross, Larry R. Low, William J. Potvin, Joe P. Windham, and George P. Grecos ................................................................. 1171

Animal Evaluation of Technetium-99m Triamide Mercaptide Complexes as Potential Renal Imaging Agents
Dennis Eshima, Andrew Taylor, Jr., Alan R. Fritzberg, Sudhakar Kasina, Lory Hansen, and James Sorenson ................................................................. 1180

Suppression by Perchlorate of Technetium-99m and Iodine-123 Secretion in Milk of Lactating Goats
P.J. Mountford, R.B. Heap, M. Hamon, I.R. Fleet, and A.J. Coakley .................................................. 1187

Interactive Visual Optimization of SPECT Prereconstruction Filtering
Michael A. King, Stephen J. Glick, Bill C. Penney, Ronald B. Schwinger, and Paul W. Doherty ........ 1192

Technical Notes
Dissolution Rate and Transit Times of Technetium-99m DTPA-Labeled Tablets
Jean C. Maublant, Michel Sournac, Jean-Marc Aiache, and Annie Veyre ........................................... 1199

Gender-Related Differences in Gastric Emptying
Frederick L. Datz, Paul E. Christian, and John Moore .......................................................... 1204

Reevaluation of the Newborn Thyroid Dose from Radioiodines
W.R. Hedrick and L.R. Milavickas .......................................................... 1208

Case Reports
Primary Pericardial Mesothelioma Detected by Gallium-67 Scintigraphy
Toshio Nishikimi, Hironobu Ochi, Kazuyoshi Hirota, Yoshiyasu Ikuno, Hisao Oku, Kazuhide Takeuchi, and Tadanao Takeda ................................................. 1210

Ventilation Scintigraphy with Submicronic Radioaerosol as an Adjunct in the Diagnosis of Congenital Lobar Emphysema
J. Loewy, H. O’Brodovich, and G. Coates .................. 1213

Neurenteric Cyst Diagnosed by Technetium-99m Pertechnetate Sequential Scintigraphy
Joachim Kropp, Dieter Emons, and Cuno Winkler .......................... 1218
CONTINUING EDUCATION

Acceptance Testing and Quality Control of Gamma Cameras, Including SPECT
Paul H. Murphy .......................................................... 1221

DEPARTMENTS

Letters to the Editor
Lymphocyte Radiolabeling: A Challenge to Their Survival
Michel Meignan and Evelyne Wirquin .................................. 1228

“Delta Sign” in Bone Scan Interpretation—A Cautionary Note
Jill V. Hunter and I. Fogelman ........................................ 1229

Failure of Iodine-131 MIBG Imaging in Small Cell Lung Carcinoma
M.D. Vincent, J. Babich, A. Irvine, V.R. McCready,
and I.E. Smith ............................................................. 1230

Thallium-201 Imaging of Auto-Transplanted Parathyroid Glands
C. Richard Goldfarb, Fukiat Ongseng, and Moses Nussbaum .... 1230

Reply
Martin P. Sandler and James A. Patton ................................ 1231

Book Reviews

NMR in Medicine: The Instrumentation and Clinical Applications. AAPM Monograph No. 14
Reviewed by Jack L. Lancaster and David T. Kopp .................. 1232

Central Nervous System
Reviewed by Theodore R. Simon ....................................... 1232

Nuclear Medicine Therapy
Reviewed by Bernhard G. Anderson ..................................... 1233

Radiation Risks to the Developing Nervous System
Reviewed by Anthony R. Benedetto .................................... 1233

Information for Authors .................................................. 25A

Calendar ................................................................. 27A

Classified Advertising .................................................. 31A

New Products .......................................................... 35A

Index to Advertisers .................................................... 36A