

The Journal of Nuclear Medicine

Official Publication of The
Society of Nuclear Medicine

Volume 27, Number 3
March 1986

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. 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.

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 (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 1986 calendar year are \$100 within the United States; \$110 for Canada and Pan American countries; \$130 elsewhere. Student subscriptions are \$50 (with proof of student status). Single copies \$9.00; foreign \$10.00; convention issue (May) \$11.00; foreign \$12.00. 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 © 1986 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

- Nuclear Medicine Community Plays Expanding Role in RSNA Annual Meeting; Growth in Comparative Imaging Reflects Search for Optimal Modalities
Linda E. Ketchum 319
- Animal Rights Movement Undermines Research and Threatens Laboratories
Jillian E. Frohman 323
- Reported Adverse Reactions to Radiopharmaceuticals Remain Low in 1984
Harold L. Atkins 327
- News Briefs: Imaging Equipment Sales Rising in Europe; Newly Accredited Residency Program; HHS Publishes Credentialing Rules; HPS Membership Votes on Committed Dose 328

CLINICAL SCIENCES

- Radionuclide Bone Scanning in Giant Cell Tumor
Douglas Van Nostrand, John E. Madewell, Lawrence M. McNiesh, Ralph W. Kyle, and Donald Sweet 329
- Indium-111 Leukocyte Imaging in Patients with Rheumatoid Arthritis
Kimiichi Uno, Nobuo Matsui, Kunichi Nohira, Toru Suguro, Yusuke Kitakata, Guio Uchiyama, Takeyoshi Miyoshi, Sadao Uematsu, Shunichi Inoue, and Noboru Arimizu 339
- Indium-111 Autologous Leukocyte Imaging in Pancreatitis
John R. Anderson, Roy A.J. Spence, James D. Laird, W. Rodney Ferguson, and Terence L. Kennedy 345
- The Rim Sign: Association with Acute Cholecystitis
David L. Bushnell, Scott B. Perlman, Michael A. Wilson, and Robert E. Polcyn 353
- Gallbladder Function in Diabetic Patients
David P. Shreiner, Rajendra P. Sarva, David Van Thiel, and Nori Yingvorapant 357
- Significance of Single Ventilation/Perfusion Mismatches in Krypton-81m/Technetium-99m Lung Scintigraphy
Joel M. Rosen, Christopher J. Palestro, David Markowitz, and Philip O. Alderson 361
- Utilization of Lung Scans by Clinicians
Nicholas Frankel, R. Edward Coleman, David B. Pryor, H. Dirk Sostman, and Carl E. Ravin 366

Case Reports

- Incidental Diagnosis of Pregnancy on Bone and Gallium Scintigraphy
Christopher J. Palestro, Jan Malat, Carl J. Collica, and Alan H. Richman 370

Metastatic Calcification in the Thyroid Gland Demonstrated
on Bone Scan in a Patient with
Primary Hyperparathyroidism
*S. Amico, P. Lucas, M.D. Diebold, J.C. Liehn,
J. Petit, and J. Valeyre* 373

Failure to Visualize Acutely Injured Kidneys with
Technetium-99m DMSA Does Not Preclude
Recoverable Function
Andrew Taylor, Jr., Frederick Akiya, and Martin C. Gregory 377

BASIC SCIENCES

A New Osmium-191/Iridium-191m Radionuclide
Generator System Using Activated Carbon
*C. Brihaye, T.A. Butler, F.F. Knapp, Jr., M. Guillaume, E.E. Watson,
and M.G. Stabin* 380

Deuterioglucose: Alteration of Biodistribution by an
Isotope Effect
*S. John Gatley, Michael M. Wess, Patricia L. Govoni, Arlene Wagner,
Joseph J. Katz, and Arnold M. Friedman* 388

Enhancement of Hepatic Gallium-67 Uptake
by Asialo-Transferrin
Ursula Scheffel, Henry N. Wagner, Jr., and Min-Fu Tsan 395

Microscale Synthesis of Nitrogen-13-Labeled Cisplatin
*Bart de Spiegeleer, Guido Slegers, Carlos Vandecasteele,
Walter Van den Bossche, Karel Schelstraete, Albert Claeys,
and Prosper De Moerloose* 399

Uptake of Hexakis (t-Butylisonitrile) Technetium(I) and
Hexakis(Isopropylisonitrile) Technetium(I)
by Neonatal Rat Myocytes and Human Erythrocytes
Howard Sands, Margaret L. Delano, and Brian M. Gallagher 404

Technical Notes

Evaluation in Dogs and Humans of Three Potential
Technetium-99m Myocardial Perfusion Agents
*Paolo Gerundini, Annarita Savi, Maria Carla Gilardi, Alberto Margonato,
Gabriele Vicedomini, Luigi Zecca, Walter Hirth, Karen Libson,
Jagdish C. Bhatia, Ferruccio Fazio, and Edward Deutsch* 409

High Yield Synthesis of 6-[¹⁸F]Fluoro-L-Dopa
Raman Chirakal, Gunter Firnau, and E.S. Garnett 417

Tumor Size: Effect on Monoclonal Antibody Uptake
in Tumor Models
*Phillip L. Hagan, Samuel E. Halpern, Robert O. Dillman, Daniel L. Shawler,
Duane E. Johnson, Agnes Chen, Lakshmy Krishnan, James Frincke,
Richard M. Bartholomew, Gary S. David, and Dennis Carlo* 422

Impact of Radiocontaminants in Commercially Available
Iodine-123: Dosimetric Evaluation
Harvey A. Ziessman, Frederic H. Fahey, and John M. Gochoco 428

The Journal of Nuclear Medicine

Volume 27, Number 3
March 1986

EDITORIAL

- Nuclear Medicine in the Prospective Payment Environment:
The Need for Individual and Group Initiatives
Ralph G. Robinson 433

DEPARTMENTS

Letters to the Editor

- The Detection of a Gastrointestinal Bleeding Site in Patients
with Liver Cirrhosis: Which Agent to Use?
Scott B. Perlman and Michael A. Wilson 435
- Validation of Diagnostic Software
Michael J. Tuscan, Richard L. Wahl, Jack E. Juni, and Dennis Swanson .. 436
- Nuclear Medicine and Nuclear War
Harriet Dige-Peterson 437
- Early Friends of Nuclear Magnetic Resonance
James J. Smith 437
- Reply
William J. MacIntyre 437
- Correction: Typographical Error 437

Book Reviews

- Induction of Thyroid Cancer by Ionizing Radiation
(NCRP-80)
Reviewed by David E. Drum 438
- Digital Image Processing in Radiology
Reviewed by Peter D. Esser 438

- Information for Authors* 440
- Calendar* 19A
- Classified Advertising* 25A
- Index to Advertisers* 30A