The Journal of Nuclear Medicine

Official Publication of The Society of Nuclear Medicine

Volume 28, Number 4 April 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

Lessons of Chernobyl: Health Consequences of Radiation Released and Hysteria Unleashed; Physician's Role Examined in Planning Response to Nuclear Accidents, Part I of a Two-Part Series	
Linda E. Ketchum	13
Nuclear Medicine Week 1987 Transforms from National Effort in US to a Global Celebration4	18
Commentary: Chernobyl Predictions and the Chinese Contribution Edward W. Webster	23
SNM Board of Trustees Approves Brain Imaging Council, Discusses Chapter Representation; Trustees Request More Work on Proposed Credentialing Statement Linda E. Ketchum	26
News Briefs: SNM Now Surveying Physicians and Scientists for Manpower Study; RIA Cost-Effectiveness Study Moves Ahead; Technologist Section Nominations	20
for 1987 SNM Election4	30

CLINICAL SCIENCES

Positron Emission Tomography in Aging and Dementia: Effect of Cerebral Atrophy John B. Chawluk, Abass Alavi, Robert Dann, Howard I. Hurtig, Sanjiv Bais, Michael J. Kushner, Robert A. Zimmermann, and Martin Reivich	431
Comparison of Leukocytes Labeled with Indium-111-2-Mercaptopyridine-N-Oxide and Indium-111 Oxine for Abscess Detection Charles M. Intenzo, Anil G. Desai, Mathew L. Thakur, and Chan H. Park	438
Comparison of Gallium-67 Citrate and Technetium-99m Glucoheptonate in the Evaluation of Pulmonary Malignancies	
Martti Vorne, Kari Alanko, Kari Jarvi, Tuomo Lantto, Risto Mokka, Kari Sahlstom, Sakari Sakki, Pirjo Sallinen, and Soini Vahatalo	442
Pinhole Collimator Scintigraphy in Differential Diagnosis of Metastasis, Fracture and Infections of the Spine Yong Whee Bahk, Ok Hwa Kim, and Soo Kyo Chung	447
Interpretation and Classification of Bone Scintigraphic Findings in Stress Fractures S. Tzila Zwas, Raya Elkanovitch, and George Frank	
Quantitative Bone Scintigraphy in Patients with Hyperparathyroidism	
Doris Bracht-Krauss, Jacek Kusmierek, Dieter Hellwig, and Willi Ernst Adam	458

BASIC SCIENCES

Fluorine-18 Labeling of Proteins

		0			
Michael R.	Kilbourn,	Carmen S. D	Dence, Michael J.	Welch,	
and Carla	Mathias				ł62

Alternative Approach to Estimate Lumped Constant in the Deoxyglucose Model: Simulation and Validation Hiroshi Matsuda, Hirofuri Nakai, Sayed Jovkar, Mirko Diksic, Alan C. Evans, Ernst Meyer, Christoph Redies, and Y. Lucas Yamamoto.	71
and Y. Lucas Yamamoto	-
Evaluation of the Lung Uptake of Iodine-131 HIPDM by the Single-Pass Multiple Indicator Dilution Technique in a Rabbit Model	'n
Douglas N. Abrams, S.F. Paul Man, and Antoine A. Noujaim	
J. Simon, and D. Wilson	3
K.W. Logan, W.A. Volkert, and R.A. Holmes	5
Three-Hour Volume of Distribution Method: An Accurate Simplified Method of Glomerular Filtration Rate Measurement	
Richard M. Fawdry and Simon M. Gruenewald	0
David A. Thorne, Frederick L. Datz, Kent Remley, and Paul E. Christian	4
Case Reports	
Adrenoleukodystrophy: Imaging with CT, MRI, and PET Nora D. Volkow, Larry Patchell, Madan V. Kulkarni, Ken Reed, and Miles Simmons	4
Localization and Treatment of Familial Malignant Nonfunctional Paraganglioma with Iodine-131 MIBG: Report of Two Cases	
F. Khafagi, J. Egerton-Vernon, T. van Doorn, W. Foster, I.B. McPhee, and R.W.G. Allison	6
Diffuse Hepatic Uptake of Technetium-99m Methylene Diphosphonate in a Patient Receiving High Dose Methotrexate	
Barry M. Flynn and S.T. Treves	2
SPECIAL CONTRIBUTION	
Iodine-131 Thyroid Uptake Results in Travelers Returning from Europe After the Chernobyl Accident Frank P. Castronovo, Jr. 534	5

The Journal of Nuclear Medicine

Volume 28, Number 4 April 1987

EDITORIAL

The Readers Speak and the Editor Responds:	
1986 Readership Survey	
Thomas P. Haynie	.542

DEPARTMENTS

Letters to the Editor	
Radiation Dosimetry from Breast Milk Excretion of Iodine-123 Peter W. Blue, George J. Dydek, and Nasser Ghaed	
Reply W.R. Hedrick, R.N. DiSimone, and R.L. Keen	
NMR "Gating" Really Means "Synchronization" Richard E. Wendt III, Paul H. Murphy, and Roxann Rokey	
Book Reviews	
1986 Year Book of Nuclear Medicine Reviewed by George A. Pjura	547
Numerical Recipes: The Art of Scientific Computing Reviewed by Richard E. Wendt III	547
Nuclear Medicine in Clinical Oncology. Current Status and Future Aspects Reviewed by E. Edmund Kim	
SPECT Single-Photon Emission Computed Tomography:	
A Primer Reviewed by David A. Weber	548
Abstracts	550
Information for Authors	554
Calendar	29 A
Classified Advertising	35A
Index to Advertisers	42A