
The Journal of Nuclear Medicine

JNM

Volume 34, Number 4 • April 1993

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The Official Publication of
The Society Of Nuclear Medicine, Inc.

FDG-PET in Differentiating Malignant from Nonmalignant Central Nervous System Lesions in Patients with AIDS

Eleven individuals with AIDS and central nervous system (CNS) lesions were studied with FDG and PET. FDG-PET was able to differentiate between malignant and nonmalignant etiologies for CNS lesions *page 567*

Characterization of Gastric Antral Motility Disturbances in Diabetes Using the Scintigraphic Technique

Gastric retention in 20 diabetic patients and 10 healthy controls was studied with the standard emptying test modified by a scintigraphic acquisition protocol and refined Fourier analysis. *page 576*

Effects of Erythromycin on Gastric Emptying, Alcohol Absorption and Small Intestinal Transit in Normal Subjects

Eight male volunteers received either erythromycin or saline in double-blind randomized order immediately before the consumption of a radioisotopically labeled test meal *page 582*

A Method of Dynamic Analysis of Iodine-123-Metaiodobenzylguanidine Scintigrams in Cardiac Mechanical Overload Hypertrophy and Failure

Serial scintigraphy was performed in 33 volunteers, 10 orthotopic cardiac transplant recipients and 26 patients with chronic mechanical overload of the left ventricle. A compartmental model in which total heart activity represented the sum of cardiac sympathetic and vesicular and cystolic pools was constructed *page 589*

Gated SPECT with Technetium-99m-Sestamibi for Assessment of Myocardial Perfusion Abnormalities

Data obtained with gated and nongated SPECT were compared in 83 subjects using a one-day protocol *page 601*

Reproducibility of Repeated Measures of Carbon-11-Raclopride Binding in the Human Brain

To test the reproducibility of measurements of ¹¹C-raclopride binding in the human brain, studies of five normal controls were performed on two separate days with no pharmacological intervention. *page 609*

Simultaneous Occurrence of Rib Infarction and Pulmonary Infiltrates in Sickle Cell Disease Patients with Acute Chest Syndrome

To evaluate the potential relationship between rib infarction and acute chest syndrome (ACS) in sickle cell disease patients, bone scans from 55 episodes of ACS in 38 patients with pain of suspected osseous origin were reviewed. *page 614*

Comparison of High Specific Activity (-) and (+)-6-[Fluorine-18]Fluoronorepinephrine and 6-[Fluorine-18]Fluorodopamine in Baboons: Heart Uptake, Metabolism and the Effect of Desipramine

Comparative PET studies in baboons revealed strikingly different kinetics in the heart *page 619*

Early Myocardial Clearance Kinetics of Technetium-99m-Teboroxime Differentiate Normal and Ischemic Canine Myocardium at Rest

To define clearance kinetics in normal and flow-restricted myocardium and to determine the utility of these data for detecting myocardial hypoperfusion, the circumflex arteries of 23 dogs were stenosed and miniature cadmium telluride detectors were used to monitor teboroxime clearance in controlled and stenosed zones. *page 630*

Vitamin C as a Radioprotector

Against Iodine-131 In Vivo

Spermhead survival was used to evaluate the capacity of vitamin C to mitigate radiation damage resulting from tissue-incorporated ¹³¹I. *page 637*

The Single-Pass Cerebral Extraction and Capillary Permeability-Surface Area Product of Several Putative Cerebral Blood Flow Imaging Agents

Simultaneous measurements of cerebral blood flow (with tracer-labeled microspheres) and extraction were performed on 106 rats *page 641*

Comparison of Uptake, Oxidation and Lipid Distribution of 17-Iodoheptadecanoic Acid and 15-(p-Iodophenyl)-3,3-Dimethylpentadecanoic Acid in Normal Canine Myocardium

After simultaneous injections of the two tracers, myocardial canine biopsy specimens and samples of arterial blood were taken over an 80-min period. *page 649*

Sequential Ten-Second Acquisitions for Detection of Gastroesophageal Reflux

Clinically documented reflux of significant magnitude was missed during a study inadvertently performed using 60-sec frames, although it was subsequently detected using a 10-sec protocol. *page 658*

Do Diagnostic Algorithms Always Produce a Uniform Interpretive Pattern?

Individual variability in ventilation-perfusion scan interpretation was evaluated over a 4-yr period in order to determine the degree of interpretive heterogeneity among physicians using the same interpretation algorithm. *page 661*

Ictal SPECT Using Technetium-99m-HMPAO Methods for Rapid Preparation and Optimal Deployment of Tracer During Spontaneous Seizures

Methods for the routine attainment of ictal images using ^{99m}Tc-HMPAO are described. The authors have devised and implemented a technique for rapid reconstitution of the tracer adjacent to the video-EEG monitoring suite so that the tracer can be quickly administered when spontaneous seizures arise.
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Correction and Characterization of Scattered Events in Three-Dimensional PET Using Scanners with Retractable Septa

A method of estimating scatter distributions from the differences between lines of response common to datasets acquired from both short two-dimensional and normal three-dimensional scans was validated with phantom measurements page 671

Methods for Improving Quantitation of Putamen Uptake Constant of FDOPA in PET Studies

To estimate the striatal uptake constant

of FDOPA in humans, two methods that account for image resolution and background levels of FDOPA were analyzed..... page 679

Bone Marrow Dosimetry for Radioimmunotherapy: Theoretical Considerations

A simple equation for calculating red marrow-to-blood activity concentration ratios, given the hematocrit and red marrow extracellular fluid fraction of a patient, is presented page 689

Radiation Dose to the Upper Spine from Therapeutic Administrations of Iodine-131-Sodium Iodide

Thyroid cancer patients may receive both conventional external irradiation to the neck and radioactive iodine therapy. Therefore knowledge of the dose received by the spine from radioiodine can be an aid in treatment planning.
..... page 695

Clinicopathologic Conferences:

Hepatic Scintigraphy in the Evaluation of Solitary Solid Liver Masses page 697

Continuing Education: A Simplified Approach to Quantification in Nuclear Medicine

A remarkable proportion of quantitative nuclear medicine stems from three equations which address, respectively, time, volume and mass. Through use of these equations, the author proposes a unifying approach to quantification by kinetic analysis in nuclear medicine.
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Commentary: Application of the Effective Dose Equivalent to Nuclear Medicine Patients

The MIRDC Committee recommends that dose calculations for patients undergoing nuclear medicine procedures continue to be made in terms of the radiation absorbed dose (in units of grays or rads)..... page 714