
The Journal of Nuclear Medicine

JNMM

Volume 33, Number 8 • August 1992

1437 Strontium-89 and Cisplatin in Prostate Cancer

1468 Plasma and ECF Volume Measurements

1486 Diagnosis of Mycotic Aneurysm

1501 Antimyosin Scintigraphy in Myocardial Infarction

1566 Patient Movement and SPECT

A Full Table of Contents Begins on Page 4A, Annotations on Pages 7A-8A



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

Strontium-89 and Low Dose Infusion Cisplatin for Patients with Hormone Refractory Prostate Carcinoma Metastatic to Bone: A Preliminary Report

Based on data revealing enhancement of continuous low-dose rate irradiation by low-dose cisplatin in murine models, a protocol using ⁸⁹Sr and cisplatin infused over two days, one and four weeks after administration of the isotope was undertaken..... Page 1437

Scintigraphic Assessment of MIBG Uptake in Globally Denervated Human and Canine Hearts— Implications for Clinical Studies

The early and late distribution of ¹²³I-labeled MIBG in normal and globally denervated canine and human hearts was examined. Canine hearts were denervated by intravenous injections of 6-hydroxydopamine, while patients were studied a mean of 4.3 mo following cardiac transplantation..... Page 1444

Samarium-153-EDTMP: Pharmacokinetic, Toxicity and Pain Response Using an Escalating Dose Schedule in Treatment of Metastatic Bone Cancer

Samarium-153 was administered in escalating amounts, from 0.1 to 1.0 mCi/kg, to 22 patients with painful metastatic bone cancer..... Page 1451

Evaluation of a Neural-Network Classifier for PET Scans of Normal and Alzheimer's Disease Subjects

A neural-network classifier based on coarse region of interest analyses was utilized to classify normal and abnormal PET FDG scans. The performance of the neural network and of an expert reader were evaluated by cross-validation testing..... Page 1459

Reproducibility of Plasma and Extracellular Fluid Volume Measurements in Critically Ill Patients

To assess the reproducibility of plasma and extracellular fluid volume measurements in critically ill patients, ¹³¹I-labeled albumin and ³⁵S-sodium sulfate were injected into 15 stable

patients on two occasions, 150 min apart. Page 1468

The Effects of Carbidopa Administration on 6-[¹⁸F]Fluoro-L-DOPA Kinetics in Positron Emission Tomography

The effects of carbidopa on plasma and brain kinetics of F-DOPA, an analog of L-DOPA used for PET studies of the central dopaminergic system, was studied in both humans and monkeys. Page 1472

Clinical Meaning of Circulating Antithyroglobulin Antibodies in Differentiated Thyroid Cancer: A Prospective Study

The presence of thyroglobulin antibodies (TgAb) before and after total thyroid ablation was studied in 43 patients with differentiated thyroid cancer in order to correlate TgAb levels to disease outcome..... Page 1478

In-Vivo SPECT Imaging of D2 Receptor with Iodine-Idolisuride: Results in Supranuclear Palsy

The potential use of [¹²³I]iodolisuride for the study of human striatal D2 dopamine receptors with SPECT was assessed in normal subjects and patients with supranuclear palsy..... Page 1481

Leukocyte Scintigraphy in the Diagnosis of Mycotic Aneurysm

After a review of all records of patients with possible mycotic aneurysm (1985-1991), a retrospective analysis of the imaging studies of seven patients who had undergone multi-imaging evaluation for suspected mycotic aneurysm was undertaken. Page 1486

Editorial: Detection of Cardiovascular Infections with Radiolabeled Leukocytes..... Page 1493

Rapid Gastric Emptying of an Oral Glucose Solution in Type 2 Diabetic Patients

In nine diagnosed Type 2 diabetic patients and one sex- and age-matched nondiabetic control, gastric emptying of a liquid glucose meal was measured with scintigraphic techniques. Page 1496

Time Course of Myocardial Infarction Evaluated by Indium-111-Antimyosin Monoclonal Antibody Scintigraphy: Clinical Implications and Prognostic Value

Thirty-four studies from 26 patients were studied at various times after myocardial infarction to determine the clinical factors which may affect uptake in chronic stages of infarction. Page 1501

Quantitative Stress Redistribution Thallium-201 SPECT Using Prone Imaging: Methodologic Development and Validation

Prone SPECT quantitative normal limits were developed and prospectively applied to 36 patients who had coronary angiography..... Page 1509

Subcellular Distribution and Analysis of Technetium-99m-MIBI in Isolated Perfused Rat Hearts

The mitochondrial inner matrix enzyme, malate dehydrogenase, and mitochondrial substrates were correlated with ^{99m}Tc-MIBI content in subcellular fractions to correct for any cross-contamination inherent in the methodology..... Page 1516

Time Course of Skeletal Muscle Glucose Uptake During Euglycemic Hyperinsulinemia in the Anesthetized Rabbit: A Fluorine-18-2-Deoxy-2-Fluoro-D-Glucose Study

Uptake of FDG by thigh muscle of the anesthetized rabbit was monitored by a single pair of coincidence photon detectors. Graphical analysis of tissue and plasma radioactivity concentrations was performed to derive fractional rates of FDG phosphorylation continuously. Page 1522

5-Iododeoxyuridine Increases the Efficacy of the Radioimmunotherapy of Human Tumors Growing in Nude Mice

Halogenated pyrimidine radiosensitizers, a class of compounds that can affect nonhypoxic cells, were evaluated as potential maximizers of the therapeutic effectiveness of radioimmunotherapy. Page 1530

Fluorine-18 Labeled Monoclonal Antibody Fragments: A Potential Approach for Combining Radioimmunoscintigraphy and Positron Emission Tomography

F(ab')₂ was labeled by reaction with N-succinimidyl-4-[¹²⁵I]iodobenzoate. The tissue distribution of the two labeled fragments was compared in paired label studies performed in athymic mice with subcutaneous D-54 MG human glioma xenografts. Page 1535

Relationship Between Quantitative Tumor Scintigraphy and Time to Metastasis in Dogs with Osteosarcoma

Dogs received radiotherapy and/or intraarterial cisplatin prior to limb-sparing surgery. Quantitative bone scintigraphy of the tumor was performed either prior to treatment (25 dogs), or following treatment but prior to limb-sparing surgery (22 dogs). Page 1542

Diagnosis of Bleeding Mycotic Iliac Aneurysm on Technetium-99m Renal Scan

The discovery of a bleeding aneurysm on a ^{99m}Tc renal scan in a patient with salmonella septicemia and no other focus of infection was considered suspicious for mycotic aneurysm. Page 1548

Scintigraphic Aspect of Rotor's Disease with Technetium-99m-Mebrofenin

The scintigraphic pattern was that of slow liver uptake with unimpaired excretion and persistent visualization of the cardiac blood pool, kidneys and urinary tract up to 6 hr. Page 1550

Editorial: Hepatic Clearance of Technetium-99m-Iminodiacetic Acid Derivatives in Hyperbilirubinemic States. Page 1551

Indium-111 Imaging of an Inflammatory Abdominal Aortic Aneurysm

It was not clear whether the activity noted was due to the inflammatory nature of the aneurysm or to hemorrhage present within the wall of the aneurysm. Page 1553

Reversible Thallium-201 Perfusion Defects of the Septal and Inferoapical Segments in a Patient with Incomplete Right Bundle Branch Block and Normal Coronary Angiogram

A 34-yr-old man with incomplete right bundle branch block and normal coronary arteries was found to have reversible defects involving septal and inferoapical walls in stress-test ²⁰¹Tl-chloride myocardial images. Page 1556

Clinicopathologic Conferences: Acute Onset of Cardiogenic Shock Associated with Normal Coronary Arteries, Diffuse Myocardial Necrosis, and Rapid Clinical Recovery

A 75-yr-old white female, with no previous history of coronary artery

disease, presented with 10 hr of severe retrosternal chest pain. Page 1558

Effect of Patient Motion on Tomographic Myocardial Perfusion Imaging

The effect of patient motion on inducing false-positive tomographic images was evaluated. The angle of camera rotation at which movement occurs, the direction of movement, and the distance of movement were analyzed. Page 1566

Editorial: Sensitivity of SPECT Thallium-201 Myocardial Perfusion Imaging to Patient Motion. Page 1571

Attenuation Correction of Thallium SPECT Using Differential Attenuation of Thallium Photons

A planar phantom was used to derive a regression equation relating attenuation to the count ratio of the low to high energy peaks. SPECT images were obtained in air and water from a three-dimensional heart phantom. Page 1574

Editorial: Of Theoretical Derivations and Empirical Evidence. Page 1578

An Automated Method for Rotational Correction and Centering of Three-Dimensional Functional Brain Images

The algorithm performs transverse and coronal rotational correction as well as the centering of the brain image set. Optimal rotational correction and centering are determined by maximizing the stochastic sign change criterion. Page 1579