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The Journal of Nuclear Medicine

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# JNMM

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Volume 32, Number 5 • May 1991

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

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**Nuclear Exercise Testing and the Management of Coronary Artery Disease**

Patients (378) were referred for nuclear exercise testing and were classified using demographics and symptoms into three categories: low, intermediate, and high coronary disease likelihoods. . . . . Page 753

**Reproducibility of Quantitative Planar Thallium-201 Scintigraphy: Quantitative Criteria for Reversibility of Myocardial Perfusion Defects**

Fifty-two paired stress/delay planar <sup>201</sup>Tl studies were processed twice by seven technologists to assess inter- and intraobserver variability. Reproducibility was inversely related to the size of <sup>201</sup>Tl perfusion abnormalities. Intraobserver variability was not different between exercise and dipyridamole studies for lesions of similar sizes. . . . . Page 759

**Renal Function and Technetium-99m-Dimersuccinic Acid Uptake in Single Kidneys: The Value of In Vivo SPECT Quantitation**

Twenty patients with a single kidney and varying degrees of renal disease underwent SPECT imaging to determine the relationship between DMSA uptake in the kidney and creatinine clearance. . . . . Page 766

**Radioimmunodetection of Neuroblastoma with Iodine-131-3F8: Correlation with Biopsy, Iodine-131-Metaiodobenzylguanidine, and Standard Diagnostic Modalities**

Iodine-131-3F8 was evaluated in 42 patients with neuroblastoma by radioimmunoscintigraphy and then compared with [<sup>131</sup>I]MIBG, <sup>99m</sup>Tc-MDP bone scans, CT, and MRI. . . . Page 769

**Left Ventricular Regional Wall Motion Assessment by Radionuclide Ventriculography: A Comparison of Cine Display with Static and Dynamic Fourier First Harmonic Imaging**

Radionuclide and contrast ventriculography were performed in two comparative projections on 50

patients with suspected coronary artery disease. The efficacy of conventional cine display and Fourier image analysis was compared using contrast ventriculography as the gold standard. . . . . Page 777

**Editorial: Radionuclide Ventriculography: Should Fourier Analysis Replace Cine Display?**

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**Evaluation of Indium-111-Labeled Antifibrin Monoclonal Antibody for the Diagnosis of Venous Thrombotic Disease**

Forty-four patients with suspected DVT were studied with contrast venography and <sup>111</sup>In-antifibrin injection within a 24-hr period. Serial antifibrin scintigrams enhanced the sensitivity of thrombus detection. . . . . Page 785

**Editorial: Do We Finally Have a Radiopharmaceutical for Rapid, Specific Imaging of Venous Thrombosis?**

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**Accuracy and Reproducibility of Left Ventricular Ejection Fraction Measurements Using an Ambulatory Radionuclide Left Ventricular Function Monitor**

Thirty-six subjects underwent repetitive bicycle exercise using sequences of both VEST monitoring and gamma camera imaging. A high intraclass correlation was noted for both absolute ejection fraction and ejection fraction. . . . . Page 796

**Indium-111-Leukocyte Imaging in Acute Cholecystitis**

Eleven patients with suspected acute cholecystitis underwent sequential <sup>99m</sup>Tc-iminodiacetic derivative <sup>111</sup>In-WBC imaging to determine if <sup>111</sup>In-WBCs accumulate within an acutely

inflamed hemorrhagic gallbladder wall. . . . . Page 803

**Changes in Quantitative SPECT Thallium-201 Results Associated with the Use of Energy-Weighted Acquisition**

The effect of utilizing energy-weighted acquisition on quantitative analysis of SPECT <sup>201</sup>Tl images was evaluated by comparing energy-weighted and windowed projection images acquired simultaneously in ten patients. . . . . Page 805

**Radiation Dosimetry for Iodine Administration to Hyperthyroid Patients**

Utilizing a study of the iodine kinetics in 127 patients, the authors developed radiation dose-to-organ estimates to the bladder, gonads, marrow, thyroid, uterus, whole body—and the fetus—in patients with varying degrees of hyperthyroidism. . . . . Page 808

**Radionuclide Angiography with Technetium-99m In Vivo Labeled Erythrocytes Does Not Lead To Induction of Mutations in the HPRT Gene of Human T-Lymphocytes**

Mutant frequencies were measured in T-lymphocytes of 13 patients undergoing radionuclide angiography with erythrocytes labeled in vivo with <sup>99m</sup>Tc. . . . . Page 814

**A Strategy for the Study of Cerebral Amino Acid Transport Using Iodine-123-Labeled Amino Acid Radiopharmaceutical: 3-Iodo-alpha-methyl-L-tyrosine**

In mice and rat brains, studies indicated the affinity of <sup>123</sup>I-L-AMT for carrier-mediated and stereoselective active transport systems; both operating across the blood-brain barrier and cell membranes of the brain. . . . . Page 819

**An Approach for Immunoradiometric Assay with a Metallic Radionuclide: Gallium-67-DF-Dialdehyde Starch-IgG**

Two tactics were used to achieve a high specific radioactivity of metal-labeled IgG: the use of a radionuclide

with a high disintegration rate, and an increase in the number of radionuclide atoms bound to each IgG molecule. .... Page 825

**Absorbed Dose Calculations to Blood and Blood Vessels for Internally Deposited Radionuclides**

To determine absorbed doses to the blood and the surface of the blood vessel wall, EGS4 Monte Carlo calculations were performed. Absorbed doses were calculated for the blood and the blood vessel wall (lumen) for different blood vessel sizes. .... Page 830

**Estimates of Absorbed Fractions in Small Volumes for Selected Radionuclides**

Absorbed fractions calculated using actual beta spectral energies were compared with those obtained using the mean beta energy for several radionuclides commonly used in nuclear medicine. .... Page 835

**Radiation Absorbed Dose Calculations for Samarium-153 Localized in Bone**

Established bone structure parameters were employed to partition the energy absorbed in the bone matrix between red bone marrow, yellow marrow, and various types of mineral bone. Both uniform surface and volume distribution of the radioactivity were considered .... Page 840

**The Chemical Identity of Pentavalent Technetium-99m-Dimersuccinic Acid**

Pentavalent <sup>99m</sup>Tc-DMSA was studied to elucidate its structure and behavior. The isomers arise from differing orientations of the carboxylate groups in the DMSA ligands and may be designated *syn-endo*, *syn-exo*, and *anti*. All three isomers are significant components of the radiopharmaceutical, raising the question as to which are tumor-specific. .... Page 845

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**Cardiac Blood-Pool Scintigraphy in Rats and Hamsters: Comparison of Five Radiopharmaceuticals and Three Pinhole Collimator Apertures**

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**Detection of Mediastinitis After Heart Transplantation by Gallium-67 Scintigraphy**

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**Reversal of Intrapulmonary Shunting in Cirrhosis After Liver Transplantation Demonstrated by Perfusion Lung Scan**

A young girl with biliary atresia leading to cirrhosis developed respiratory complications with hypoxemia. Intrapulmonary shunting was diagnosed with <sup>99m</sup>Tc-MAA perfusion lung scans. .... Page 862

**Myocardial Distribution of Indium-111-Antimyosin Fab in Acute Inferior and Right Ventricular Infarction: Comparison with Technetium-99m-Pyrophosphate Imaging and Histologic Examination**

Comparisons were made in a post-mortem study of a 69-yr-old female

who had sustained a left ventricular inferior and right ventricular infarction 7 days prior to death. The myocardial distribution of <sup>111</sup>In-antimyosin Fab corresponded well with <sup>99m</sup>Tc-pyrophosphate scintigrams and histologic examination. .... Page 865

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**Orbit-Related Variation in Spatial Resolution as a Source of Artfactual Defects in Thallium-201 SPECT**

Simulated SPECT data, acquired with circular and elliptical orbits, were reconstructed in order to study the effect of spatial resolution on the resulting tomograms. .... Page 871

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**Use of Technetium-99m(V)Thiocyanate To Measure Gastric Emptying of Fat**

Six volunteers consumed a low nutrient soup labeled with <sup>113m</sup>In-DTPA and mixed with <sup>99m</sup>Tc(V) thiocyanate labeled olive oil. The aqueous component emptied faster than the oil. .... Page 878

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