

---

The Journal of Nuclear Medicine

---

# JNMM

---

Volume 32, Number 2 • February 1991

---

---

193 Ribose Accelerates Thallium-201 Redistribution

---

221 Immunoscintigraphy with Radiolabeled OC125

---

228 Technetium-99m-PMT in Hepatocellular Carcinoma Prognosis

---

293 Myocardial Viability and Activity of Sestamibi

---

325 Technetium-99m-MDP, Pleural Effusion, and Lymphoma

---

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



---

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

---

**Ribose Accelerates Thallium-201 Redistribution in Patients with Coronary Artery Disease**

After immediate postexercise planar imaging, 17 patients with known coronary artery disease received either i.v. ribose or saline as a control..... Page 193

**Editorial: Thallium-201-Chloride for the Detection of Viable Myocardium..... Page 200**

**Long-term Follow-up After Heterotopic Splenic Autotransplantation for Traumatic Splenic Rupture**

In 13 traumatized patients, heterotopic splenic autotransplantation to the greater omentum was performed. Long-term follow-up (3-4.5 yr) using labeled heat-damaged autologous erythrocytes showed a significant increase in transplant size, as compared to the examination 1-7 mo after surgery... Page 204

**Editorial: Compensatory Splenic Growth: Role of Function Indicators..... Page 207**

**Visual Stimulation Increases Technetium-99m-HMPAO Distribution in Human Visual Cortex**

Seven healthy subjects were injected with 740 MBq <sup>99m</sup>Tc-HMPAO on two separate days. On one day, injection followed closure of the eyes and patching for 5 min. On the other day, patients were exposed to stroboscopic light to produce photic stimulation..... Page 210

**Normative Data for Lumbar Spine Bone Mineral Content in Children: Influence of Age, Height, Weight, and Pubertal Stage**

In 136 normal children, BMC was determined with a dual-photon absorptiometer. BMC was calculated as BML (per unit length) and BMD (per unit surface). For the whole group of studied children, the increase in BMC with age, height,

and weight was best predicted by an exponential regression line analysis. .... Page 216

**Reproducibility of Image Interpretation in Immunoscintigraphy Performed with Indium-111- and Iodine-131-Labeled-OC125 F(ab')<sub>2</sub> Antibody Injected into the Same Patients**

Paired immunoscintigraphic examinations were performed on 43 patients with suspected ovarian carcinoma recurrence..... Page 221

**Relationship of Uptake of Technetium-99m (Sn)-N-Pyridoxyl-5-Methyltryptophan by Hepatocellular Carcinoma to Prognosis**

The median survival of 82 patients in whom hepatic tumors showed increased uptake was 1013 days, a survival rate significantly longer than that of the 80 patients in whom the tumors did not show increased uptake..... Page 228

**Editorial: Prognosis of Hepatocellular Carcinoma: Known to be Poor: Yet Difficult to Predict..... Page 235**

**Assessment of Myocardial Perfusion in Patients After the Arterial Switch Operation**

In 21 patients who had the arterial switch operation, the adequacy of myocardial perfusion was evaluated by <sup>201</sup>Tl scintigraphy. Tomographic imaging was performed at peak stress and 3 hr later in the reperfusion phase..... Page 237

**Comparison of In Vitro RBC Labeling with the UltraTag® RBC Kit Versus In Vivo Labeling**

Imaging studies were performed in 30 patients for each of the labeling procedures. Heart-to-background ratios, averaged among two blinded reviewers, were 4.6 and 3.4 for the in vitro and in vivo methods, respectively..... Page 242

**Myocardial Uptake of Carbon-11-Acetate as an Indirect Estimate of Regional Myocardial Blood Flow**

In 22 patients with stable coronary artery disease, regional distribution of early net uptake of <sup>11</sup>C-acetate was correlated with estimates of regional myocardial blood flow assessed with <sup>15</sup>O-water..... Page 245

**Comparison of 1073 MBq and 3700 MBq Iodine-131 in Post-operative Ablation of Residual Thyroid Tissue in Patients with Differentiated Thyroid Cancer**

In 63 patients with differentiated thyroid cancer, the authors were unable to demonstrate any appreciable difference between 3700 MBq and 1073 MBq <sup>131</sup>I in regard to the number of doses required for complete scintigraphic ablation of residual functioning thyroid tissue..... Page 252

**Blood-Pool Radionuclide Angiography in Patients with a Novacor Left Ventricular Assist Device**

Studies were performed during maximal and minimal tolerated assist device flows. All patients had severe left ventricular dilation and hypokinesia before insertion of the assist device..... Page 255

**Effect of Aortic Sclerosis on Bone Mineral Measurements by Dual-Photon Absorptiometry**

Dual-photon absorptiometry scans were performed in the anteroposterior projection in 100 dissected abdominal aortae with different degrees of atherosclerosis placed on a human lumbar spine cast in lucite. The measured values were compared with those obtained in the same projection without the aortae..... Page 259

**Early Scintigraphic Detection of Experimental Myocardial Infarction in Dogs with Technetium-99m-Glucaric Acid**

Technetium-99m-glucaric acid retention was studied in canine models of myocardial ischemia, acute myocardial infarction, and chronic infarction. Regional myocardial blood flow was measured by radiolabeled microspheres. .... Page 263

**Editorial: Detection of Acute Myocardial Infarct by Infarct-Acid Imaging**..... Page 269

**Localization of Technetium-99m-Glucuronate in Zones of Acute Cerebral Injury**

Adult rats (63) with middle cerebral artery (MCA) occlusion followed by reperfusion were injected with <sup>99m</sup>Tc-glucuronate. The radionuclide images were compared to the results of triphenyl tetrazolium chloride staining and conventional histopathology..... Page 272

**Variables Influencing Tumor Uptake of Anti-Melanoma Monoclonal Antibodies Radioiodinated Using the Para-Iodophenyl (PIP) Conjugate**

Tumor uptake was examined with respect to antigen expression, time-dependent biodistribution, dose of Mab injected, tumor size, and tumor site..... Page 279

**Editorial: Biologic Characterization of Melanoma Tumors by Antigen-Specific Targeting of Radiolabeled Anti-Tumor Antibodies**..... Page 287

**Effect of Coronary Occlusion and Myocardial Viability on Myocardial Activity of Technetium-99m-Sestamibi**

In different groups of swine, sestamibi was administered prior to and during coronary artery occlusion and 30 min following reperfusion. Significantly reduced activity in the infarct zone was found to be independent of the tim-

ing of sestamibi administration with respect to the onset of myocardial ischemia and/or reperfusion ..... Page 293

**Editorial: Technetium-99m-Sestamibi: Another Window on Myocardial Viability**..... Page 298

**Metabolic Imaging with Gallium-68- and Indium-111-Labeled Low-Density Lipoprotein**

In vivo studies that compared <sup>68</sup>Ga or <sup>111</sup>In-DTPA-LDL with dilactitol-<sup>125</sup>I-tyramine LDL and <sup>131</sup>I-LDL showed that both <sup>68</sup>Ga- and <sup>111</sup>In-labeled LDL behaved as residualizing radiotracers.. Page 300

**Imaging Histamine H1 Receptors in the Living Human Brain with Carbon-11-Pyridylamine**

Distribution and kinetics were examined in vivo in two baboons and one human by PET. The in vivo specific binding to the H1 receptors in different brain regions at 7 min after injection correlated with in vitro H1 histamine receptor distribution in human brain tissue obtained at autopsy..... Page 308

**Clinicopathologic Conferences: Myocarditis Simulating Myocardial Infarction**..... Page 312

**Isolated Muscular Sarcoidosis Causing a Fever of Unknown Origin: The Value of Gallium-67 Imaging**

In a patient with a long-standing fever of unknown origin, <sup>67</sup>Ga imaging revealed increased activity only in the calf muscles bilaterally. Other modalities also failed to show chest or other abnormal findings. .... Page 319

**Extracranial Metastatic Glioblastoma: Appearance on Thallium-201-Chloride/Technetium-99m-HMPAO SPECT**

Sequential <sup>201</sup>Tl-chloride and <sup>99m</sup>Tc-HMPAO SPECT images were obtained in a patient with extracranial metastatic glioblastoma multiforme. Possible mechanisms for uptake are reviewed..... Page 322

**Technetium-99m-Methylenediphosphonate (MDP) Uptake in a Sympathetic Effusion: An Index of Malignancy and a Review of the Literature**

Malignant cells were not present on three cytologic examinations of the pleural fluid or multiple pleural biopsies..... Page 325

**Gallium Uptake in Tryptophan-Related Pulmonary Disease**

A patient developed fever, fatigue, muscle weakness, dyspnea, skin rash, and eosinophilia after taking high doses of tryptophan for insomnia for 2 yr. Gallium scan revealed diffuse increased uptake in the lung and no abnormal uptake in the muscular distribution... Page 328

**Delayed Positive Gastrointestinal Bleeding Studies with Technetium-99m-Red Blood Cells: Utility of a Second Injection**

Two patients studied with <sup>99m</sup>Tc-labeled RBCs for gastrointestinal bleeding had positive findings only on 24-hr delayed images. At the point of active bleeding, the patient was reinjected and the site of extravasation identified.... Page 330

**Three-Dimensional Simulations of Multidetector Point-Focusing SPECT Imaging**

Using simulated projection data from a multidetector point-focusing SPECT instrument, the authors have uncovered apparent artifacts in the reconstructed data..... Page 333

**A Kit Formulation for Preparation of Iodine-123-IBZM: A New CNS D-2 Dopamine Receptor Imaging Agent**

By using a rapid filtration technique to remove unreacted iodide, kit preparation can be completed in less than 20 min with an overall yield of greater than 60%..... Page 339

**Determination of Weighting Functions for Energy-Weighted Acquisition**

A methodology by which weighting functions can be produced is described..... Page 343