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The Journal of Nuclear Medicine

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# JNMM

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Volume 31, Number 3 • March 1990

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

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## Limited Myocardial Perfusion Reserve in Patients with Left Ventricular Hypertrophy

Twenty-five patients, nine with LVH and sixteen controls, underwent positron imaging at rest and following intravenous dipyridamole and handgrip stress. There were no regional differences in activity in any of the studies. These data support the presence of an abnormality of perfusion reserve in patients with LVH. . . . .Page 255

## Noninvasive Assessment of Coronary Collaterals in Man by PET Perfusion Imaging

To determine the effect of coronary arteriolar vasodilation on collateral bed perfusion in man, myocardial perfusion imaging was performed before and after pharmacologic coronary vasodilation in patients with CAD. Coronary steal was indicated in 25 of 28 patients with angiographic collaterals. . . . .Page 259

**Editorial:**  
**Noninvasive Quantification of Regional Myocardial Blood Flow: Assessment of Myocardial Perfusion Reserve and Collateral Circulation.** . . . .Page 273

## The Acetabulum: A Prospective Study of Three-Phase Bone and Indium White Blood Cell Scintigraphy Following Porous-Coated Hip Arthroplasty

Twenty-five uncomplicated porous-coated hip arthroplasties in 21 patients were prospectively studied. All prostheses demonstrated increased uptake on bone-phase images (144 of 144 scans). Thirty-seven percent of those still had significant uptake at 24 months. . . . .Page 274

## SPECT Studies of Brain Tumors with L-3-[<sup>123</sup>I]Iodo- $\alpha$ Methyl Tyrosine: Comparison

## with PET and <sup>124</sup>IMT, and First Clinical Results

Although nonspecific tumor uptake is a consideration, accumulation of IMT in normal brain tissue and in some tumors with BBB, suggests a specific uptake of IMT. With transport as the main determinant, the authors conclude that <sup>123</sup>IMT may be a suitable SPECT tracer of amino acid uptake. . . . .Page 281

## Measurement of Skin-to-Kidney Distance in Children: Implications for Quantitative Renography

The authors measured kidney depth in a pediatric population, comparing their findings with published nonograms. They found that the nonograms, originally developed for adults, consistently underestimated the renal depth in their pediatric study cases. . . . .Page 287

## Utility of Gallium Imaging of the Kidneys in Diagnosing Primary Amyloid Nephrotic Syndrome

Twenty-eight patients with primary amyloidosis underwent gallium-67-citrate imaging to determine the value of gallium imaging of the kidneys in cases of nephrotic syndrome. Although intense uptake in both kidneys was observed in 25 of 28 patients, the authors conclude that gallium uptake did not differentiate amyloid syndrome from other causes of nephrotic syndrome. . . . .Page 292

## Single Perfusion Defect and Pulmonary Embolism: Angiographic Correlation

The retrospective review of 133 ventilation-perfusion scans with angiographic correlation suggests

that, in the appropriate clinical setting, single perfusion defects have at least a moderate probability for pulmonary emboli. When clinical suspicion is high, pulmonary angiography is suggested to confirm the diagnosis. . . . .Page 296

## Positron Emission Tomography of Fluorine-18-Deoxyglucose and Image-Guided Phosphorous-31 Magnetic Resonance Spectroscopy in Brain Tumors

Both methods were studied with respect to their contribution to the differential diagnosis in 23 patients with various brain tumors. The authors concluded that the two methods examined different aspects of tumor metabolism and, as such, both can be utilized in a complementary fashion. . . . .Page 302

## Comparison of Technetium-99m-HM-PAO Leukocytes with Indium-111-Oxine Leukocytes for Localizing Intraabdominal Sepsis

After simultaneous scanning was carried out in 41 patients, the authors conclude that, due to the number of false-positives, four-hour HM-PAO leukocyte scans could not replace 24-hour <sup>111</sup>In leukocyte scans. . . . .Page 311

**Editorial:**  
**In Search of the Hot Appendix—A Clinician's View of Inflammation Imaging** . . . . .Page 316

## Indium-111-Labeled Leukocyte Scintigraphy in Hemodialysis Access-Site Infection

A retrospective review of <sup>111</sup>In-labeled autologous leukocyte scintigraphy in 26 patients on chronic hemodialysis, in whom access-site

infection was a possibility, suggests the procedure is useful in the diagnosis of such an infection, and may be especially valuable in cases where normal results were obtained on physical examination . . . .Page 319

**Osteoporosis in Women with Eating Disorders: Comparison of Physical Parameters, Exercise, and Menstrual Status with SPA and DPA Evaluation**

To determine the prevalence and distribution of osteoporosis as well as the role of physical parameters, exercise, and estrogen in osteoporosis, 33 patients with eating disorders were studied. The authors conclude that patients with eating disorders are at risk for osteoporosis and that osteoporosis has multiple contributing factors including physical parameters and exercise. . . . .Page 325

**Tumor Visualization with a Radioiodinated Phospholipid Ether**

Tissue distribution studies in rats bearing the Walker 256 carcinoma showed the tumor to contain the highest concentration of radioactivity at 24 hours and a tumor-to-blood ratio of thirteen. Twenty-four-hour scintigraphic images compared favorably with gallium-67-citrate. The ether showed little propensity to accumulate in inflammatory lesions. . . . .Page 332

**Utilization of Labeled Thymidine in DNA Synthesis: Studies for PET**

The authors offer a study which uncovered significant differences in the metabolism of [<sup>3</sup>H]thymidine versus thymidine labeled with

radioactive carbon. They conclude that [<sup>3</sup>H]thymidine is not an appropriate standard for comparison with PET studies employing [<sup>11</sup>C]thymidine. . . . .Page 337

**Indium-111-Labeled LDL: A Potential Agent for Imaging Atherosclerotic Disease and Lipoprotein Biodistribution**

Study results suggest that indium-labeled low density lipoprotein has potential as an agent for external imaging of atherosclerotic lesions and lipoprotein biodistribution. . . .Page 343

**Evaluation of a Potential Generator-Produced PET Tracer for Cerebral Perfusion Imaging: Single-Pass Cerebral Extraction Measurements and Imaging with Radiolabeled Cu-PTSM**

Baboon single-pass cerebral extraction measurements and PET imaging, carried out with the use of <sup>67</sup>Cu and <sup>64</sup>Cu, were used in an evaluation of Cu-PTSM for CBF PET studies. Quantitative determination of blood flow with the new tracer agreed well with flow determined by H<sub>2</sub><sup>15</sup>O. . . . .Page 351

**Clinical Pathologic Conference: Magnetic Resonance and Fluorine-18-Deoxyglucose Imaging in the Investigation of a Spinal Cord Tumor. . . .Page 360**

**Residual Mass and Negative Gallium Scintigraphy in Treated Lymphoma**

Two patients with treated lymphoma demonstrated a residual mass on CT following treatment. In both cases, <sup>67</sup>Ga scintigraphy demonstrated in-

creased uptake in the original tumor mass and no uptake in the mass after treatment. . . . .Page 365

**Editorial: Residual Mass and Negative Gallium Scintigraphy in Treated Lymphoma: When Is the Gallium Scan Really Negative?**

. . . . .Page 369

**Increased Lung Uptake on Technetium-99m-Sulfur Colloid Liver-Spleen Scans in Patients with Hepatic Venooctclusive Disease Following Bone Marrow Transplantation**

Although increased lung uptake of labeled colloid has been noted previously, in solid organ and bone marrow transplant patients, an association between this phenomenon and VOD had not been made. The authors offer the case reports of three bone marrow transplant patients. . . . .Page 372

**Ocular Melanoma: Detection Using Iodine-123-Iodoamphetamine and SPECT Imaging**

The authors offer the case report of a 64-yr-old white male who presented in October of 1988 with a complaint of painless, progressive loss of vision in his right eye, to illustrate the detection of an ocular melanoma at one-hour postinjection using SPECT techniques. . . .Page 375

**MIRD Dose Estimate No. 14: Radiation Absorbed Dose from Technetium-99m-Labeled Red Blood Cells**

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