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In This Month's Issue of

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Prognostic Value of Cardiac Metaiodobenzyl-Guanidine Imaging in Patients with Heart Failure

Ninety patients suffering from either ischemic or idiopathic cardiomyopathy were evaluated for MIBG cardiac uptake, radionuclide left ventricular ejection fraction, x-ray cardiothoracic ratio and echocardiographic M-mode data. Preliminary data demonstrated that PET imaging data were significantly more predictive of survivors than of non-survivors, and that the @mTc@ECD patients had a better correlation with myocardial perfusion imaging data than did the MIBG patients. The data were analyzed to determine the effect of circulating TAG-72 antigen. 

Editorial: Prognosis in Congestive Heart Failure: What Information Can Best Predict the Future? 

Intrasubject Comparison Between Technetium-99m-ECD and Technetium-99m-HMPAO in Healthy Humans

The pharmacokinetics and quality of planar and SPECT brain images of 99mTc-HMPAO and 99mTc-ECD were compared in seven, healthy normal subjects. The ability of 201Tl with reinjection and 99mTc-MIBI to identify viable myocardium was compared in 20 male patients with angiographically-proven coronary artery disease and left ventricular dysfunction.

Detection of Bilateral and Symmetrical Anomalies in Technetium-99m-HMPAO Brain SPECT Studies

To obtain normal values of anteroposterior rCBF distribution of patients with a low probability of having cerebral lesions, 99mTc-HMPAO brain studies were analyzed semiquantitatively.

A Retrospective Study of Radiolabeled Granulocyte Kinetics in Patients with Systemic Vasculitis

In a retrospective review of 12 patients with systemic vasculitis and renal disease, increased diffuse lung uptake was observed in the injection of 111In-labeled granulocytes or 99mTc-HMPAO labeled leukocytes in all patients with Wegener's granulomatosis and in three with microscopic polyarteritis.

Pharmacokinetics of Indium-111-Labeled B7.2 Monoclonal Antibody in Colorectal Cancer Patients

The pharmacokinetics of labeled B7.2 anti-TAG-72 Mab were determined in 11 patients entered in a Phase II/III clinical trial for detection of colorectal cancer. Data were analyzed to determine the effect of circulating TAG-72 antigen.

Identification of Viable Myocardium in Patients with Chronic Coronary Artery Disease: Comparison of Thallium-201 Scintigraphy with Reinjection and Technetium-99m-Methoxyisobutyl Isonitrile

The ability of 99Tc-HMPAO brain studies were analyzed semiquantitatively.

Pulmonary Disposition of Gallium-67 in Patients with Pneumocystis Pneumonia: An Analysis Using Bronchoalveolar Lavage

To study 67Ga disposition in the lungs of patients, bronchoalveolar lavage fluid was analyzed 24 hr after 67Ga injection.

Subchondral Bone Infarctions in Acute Ligamentous Knee Injuries Demonstrated on Bone Scintigraphy and Magnetic Resonance Imaging

Thirteen patients underwent MRI, three-phase bone scintigraphy with SPECT, and arthroscopic surgery after sustaining acute traumatic hemarthrosis of a knee.

Distribution of Carbon-11-Cocaine in Human Heart, Lung, Liver and Adrenals: A Dynamic PET Study

Cocaine uptake in the human body was investigated using 11C-labeled cocaine and PET in 14 healthy male volunteers.

Technetium-99m-Labeled Anti-Granulocyte Antibodies in Suspected Bone Infections

Thirty unselected patients with suspected bone infections were studied prospectively with the monoclonal 99mTc-labeled antigranulocyte antibody. Planar whole-body scans were performed 0, 4, and 20–24 hr after administration of 500 MBq of the labeled antibody.

Studies of Primary Central Nervous System Lymphoma with Fluorine-18-Fluorodeoxyglucose Positron Emission Tomography

Ten patients with primary CNS lymphoma were studied with 18FDG PET to demonstrate the findings in patients with this rare tumor.

Quantification of a Gallbladder Ejection Fraction: Advantage of Continuous Sincalide Infusion over the Three-Minute Infusion Method

Three alternative methods of infusing sincalide for calculation of a gallbladder ejection fraction during cholecintigraphy were investigated in 23 normal volunteers.

Editorial: Gallbladder Ejection Fraction: A Decade of Progress and Future Promise

Myocardial Na, K-ATPase Imaging Using Iodine-123-Labeled Digoxin

Biodistribution, in vivo inhibition and in vitro Na,K-ATPase binding studies were carried out in male guinea pigs. Based on the results of these studies, a canine heart imaging study using radioiodinated digoxin derivatives was performed.

Editorial: How Magic is the Bullet, and What Will it Do?

Technetium-99m-L-Ethylene-dicycstone: A Renal Imaging Agent

I. Labeling and Evaluation in Animals
The biological behavior of $^{99m}$Tc-L,L-ethylendicysteine was studied in mice and a baboon under control conditions and after administration of Probenecid.


An analog of the antiprogestin RU486, modified to incorporate an N2S2 chelate system in the 11β-position, was labeled with $^{99m}$Tc, $^{99m}$Tc, and $^{186}$Re. Page 558

Reduced Hepatic Accumulation of Radiolabeled Monoclonal Antibodies with Indium-111-Thioether-Poly-L-Lysine-DTPA Monoclonal Antibody-TP41.2 F(ab')2

To improve labeling of Mabs, the use of a polyamino acid as a backbone for multiple DTPA substitutions was investigated. A single-chain linker was used to conjugate the polychelates to the Mab. Page 570


Antimyosin monoclonal antibody fragments were labeled with $^{18}$F using a succinimidy1 $[^{18}$F]fluorobenzylamine ester acylation agent. Six dogs had myocardial infarction induced by coronary artery occlusion and were reperfused prior to the intravenous administration of the labeled Fab. Page 575

Contribution of Labeled Carbon Dioxide to PET Imaging of Carbon-II-Labeled Compounds

The authors measured the retention and excretion of $^{11}$CO2 in dogs after the intravenous injection of labeled CO2/HCO3, which had been equilibrated ex vivo with blood. Page 581

Editorial: Labeled Carbon Dioxide: How Transient a Metabolite? Page 585

Indium-111-Antimyosin Uptake in Acute and Remote Myocardial Infarction: Comparison with Pathohistological Findings

Indium-111-Fab antimyosin antibody accumulation was studied in an 81-yr-old patient with acute and chronic ischemia and infarction. Page 587

Clinicopathologic Conferences: Esophageal Scintigraphy in Achalasia and Achalasia-like Disorders Page 590

Design Features and Performance of a PET System for Animal Research

A PET system for animal research, featuring a single 64-cm diameter ring of 80 BGO "block" detectors collimated with seven annular tungsten septa, was evaluated. Page 595

A Dual-Photopeak Window Method for Scatter Correction

The authors tested the hypothesis that if the photopeak was divided into two non-overlapping energy windows, a regression relation could be obtained between the ratio of counts within these windows and the scatter fraction for counts within the total region. Page 605

Use of the Abdominal Aorta for Arterial Input Function Determination in Hepatic and Renal PET Studies

The technique was validated by comparing PET measurements of abdominal aortic activity to well counter measurements of arterial blood samples from canine renal studies and to PET measurements of left ventricular cavity activity in eight human hepatic studies. Page 613

Editorial: A Bloody Future for Clinical PET. Page 620

Positron Emission Tomography Using Fluorine-fluoro-deoxy-glucose in Malignant Lymphoma: A Comparison with Proliferative Activity

FDG PET was performed in 23 patients with malignant lymphoma and the indices obtained from these studies were compared to pathologic findings. Page 623