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Comparison Between Thallium-201, Technetium-99m-Sestamibi and Technetium-99m-Teboroxime Planar Myocardial Perfusion Imaging in Detection of Coronary Artery Disease

Eighteen patients with significant coronary artery disease in coronary angiogram underwent three treadmill stress tests performed within a span of 3 mo that utilized MIBI, Tebo and thallium as the imaging agents.
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Clinical Experience with Rhenium-186-Labeled Monoclonal Antibodies for Radioimmunotherapy: Results of Phase I Trials

Two Phase I trials were carried out. Patients with refractory metastatic epithelial carcinoma received single doses of a rhenium-labeled pancarcinoma antibody or anti-CEA variant antibody. Prior to the therapy, tumor localization was confirmed by either ^{99m}Tc-NR-LU-10 Fab or ^{99m}Tc-NR-CO-02 F(ab')₂ imaging.
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Editorial: Radioimmunotherapy of Cancer: Arming the Missiles
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Dosimetric Evaluation of Immunoscintigraphy Using Indium-111-Labeled Monoclonal Antibody Fragments in Patients with Ovarian Cancer

To evaluate the biodistribution and dosimetry for a monoclonal antibody against ovarian carcinoma, eight patients received 140 MBq ¹¹¹In-OV-TL 3F(ab')₂ and were imaged daily for the first 96 hr.
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A Scintigraphic Comparison of Iodine-123-Metaiodobenzylguanidine and Iodine-123-Labeled Somatostatin Analog (Tyr-3-Octreotide) in Metastatic Carcinoid Tumors

Iodine-123-labeled somatostatin analogue Tyr-3-octreotide and ¹²³I-labeled metaiodobenzylguanidine scintigraphy were compared in seven

patients with histologically proven metastatic carcinoid tumors. Page 1121

PET Scanning with Hydroxyephedrine: An Approach to the Localization of Pheochromocytoma

Ten patients with known or suspected pheochromocytoma underwent PET scanning with ¹¹C-HED and conventional scintigraphy with MIBG in order to determine the feasibility of utilizing ¹¹C-HED as a tumor imaging agent.
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Radioiodine-131 Therapy for Well-Differentiated Thyroid Cancer: Outcome Using a Quantitative Radiation Dosimetric Approach in 85 Patients

Radiation dose thresholds for successful treatment of thyroid cancer were validated in 85 patients.
..... Page 1132

Precision of Bone Mineral Density and Content Measurement by Dual-Energy X-ray Absorptiometry in Various Bone Regions

The in-vivo day to day precision of dual-energy x-ray absorptiometry for lumbar spine, femoral neck, distal femur, patella, proximal tibia, calcaneus and distal radius was evaluated in 15 subjects.
..... Page 1137

Measurement of Bone Mineral Content and Bone Density in Healthy Twelve-Year-Old White Females

Bone mineral content and mineral density measurements of 112 health 12-yr-old white girls by dual x-ray absorptiometry were undertaken in order to establish reference data and to compare lumbar spinal bone density values from a dedicated scan with region of interest density values from whole-body scans.
..... Page 1143

Rapid Radiotracer Washout from the Heart: Effect on Image Quality in

SPECT Performed with a Single-Headed Gamma Camera System

To evaluate the feasibility of performing SPECT with ^{99m}Tc-teboroxime using a single-headed gamma camera system, a series of phantom studies were performed that simulated varying degrees of washout from normal and ischemic regions of the myocardium.
..... Page 1146

Measurement of Myocardial Blood Flow Using a Co-Injection Technique for Technetium-99m-Teboroxime, Technetium-96-Sestamibi and Thallium-201

Myocardial blood flow (MBF apparent) indicated by teboroxime, sestamibi and ²⁰¹Tl was compared with true MBF indicated by radiolabeled microspheres using a technique for the co-injection of four radionuclides in the same animal.
..... Page 1152

Gallium-Labeled Deferoxamine-Galactosyl-Neoglycoalbumin: A Radiopharmaceutical for Regional Measurement of Hepatic Receptor Biochemistry

A two-step glutaraldehyde method was used to covalently couple deferoxamine to galactosyl-neoglycoalbumin. In-vitro and in-vivo characterization of the resulting chelation-based derivative, deferoxamine-galactosyl-neoglycoalbumin (DF-NGA), is described.
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Lymphocyte Labeling with Technetium-99m-HMPAO: A Radiotoxicity Study Using the Micronucleus Assay

Radiation damage to lymphocytes after in-vitro labeling of mixed leukocytes and isolated lymphocytes with ^{99m}Tc-HMPAO was evaluated using a cytokinesis micronucleus assay.
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Diffuse Pulmonary Uptake of Indium-111-Labeled Leukocytes in Drug-Induced Pneumonitis

Indium-111-labeled-leukocyte

scintigraphy was performed on three febrile patients who had recently undergone chemotherapy for malignancy. Page 1175

Renal Transplant Hypertension Caused by Iliac Artery Stenosis

The typical changes due to hemodynamically significant renal stenosis were demonstrated on a captopril renal study utilizing both radiohippuran and ^{99m}Tc-MAG3. Page 1178

Technetium-99m-Labeled Anti-Fibrin Monoclonal Antibody Accumulation in an Inflammatory Focus

A ^{99m}Tc-labeled murine anti-fibrin monoclonal antibody, injected for the localization of thrombotic lesions, incidentally demonstrated an inflammatory focus. Page 1181

Primary Splenic Non-Hodgkin's Lymphoma After the Treatment of Hodgkin's Disease

Twenty-three years after successful radiotherapy for Hodgkin's disease, a 72-yr-old man developed a rare, primary non-Hodgkin's lymphoma. Gallium-67 was instrumental in reaching the correct diagnosis. Page 1183

Clinicopathologic Conferences: Intrahepatic Versus Extrahepatic Cholestasis in Hepatobiliary Scintigraphy

A 63-yr-old female presented with a 4-day history of diarrhea, profound lethargy and mild nausea without vomiting. Page 1186

Evaluation of a Positron Emission Tomography Scanner for Whole-Body Imaging

To perform whole-body PET imaging,

a PET system was devised that: extended the axial field of view by imaging at multiple bed positions, collected 100% of the projection data to form two-dimensional images and formed tomographic images by using filtered backprojection reconstruction without attenuation correction. Page 1191

A Simulation on Dynamic SPECT Using Radiopharmaceuticals with Rapid Clearance

Artifacts and quantitative errors resulting directly from the use of radiopharmaceuticals with rapid temporal changes in radioactivity were studied using phantoms, mathematical models and clinical myocardial data. Page 1200

Editorial: SPECT of Rapidly Cleared Traces: Imaging A Cheshire Cat Page 1206

Misalignment Between PET Transmission and Emission Scans: Its Effect on Myocardial Imaging

The severity and impact of errors produced by patient movement between PET scanning sequences were evaluated by examining reconstructed myocardial FDG scans from 14 patients. Page 1209

Editorial: Misalignment Between PET Transmission and Emission Scans Page 1214

A Noninvasive Test of Sphincter of Oddi Dysfunction in Postcholecystectomy Patients: The Scintigraphic Score

Quantitative and visual criteria were combined to produce a scintigraphic score that was then used in the evaluation of sphincter of Oddi dysfunction in 26 consecutive

postcholecystectomy patients. Page 1216

Editorial: The Scintigraphic Evaluation of Sphincter of Oddi Dysfunction Page 1223

Compensation for Three-Dimensional Detector Response, Attenuation and Scatter in SPECT Neuroreceptor Imaging Using an Interactive Reconstruction Algorithm That Incorporates a High-Resolution Anatomical Image

To compensate for shape- and size-dependence, as well as for attenuation and scatter in reconstructed SPECT neuroreceptor images, the authors have applied an interactive reconstruction algorithm. The approach was validated by simulation studies utilizing a slice through the basal ganglia in the realistic Hoffman three-dimensional mathematical brain model. Page 1225

Issues in the Quantitation of Reoriented Cardiac PET Images

Errors introduced during the reorientation of cardiac transaxial PET images were characterized quantitatively using an annular phantom of human cardiac dimensions imaged by a 15-plane positron emission tomograph at six angles and two different axial sampling densities. Page 1235

A Region of Interest Strategy for Minimizing Resolution Distortions in Quantitative Myocardial PET Studies

A method to minimize the distortions inherent in PET images of the human heart, which are due to fine image resolution and cardiac motion, is proposed. Simulation studies were performed to evaluate the noise characteristics of this method. Page 1243