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Quantification of Walking Exercise Required for Improvement of Dipyridamole Thallium-201 Image Quality

To determine the amount of exercise necessary to improve image quality in dipyridamole-thallium studies, 120 patients were randomized to a control group receiving dipyridamole alone or supplemented with exercise.
..... *page 2061*

Determination of Extent and Location of Coronary Artery Disease in Patients Without Prior Myocardial Infarction by Thallium-201 with Pharmacologic Stress

The degree to which ²⁰¹Tl tomography can determine the extent and location of coronary artery disease was studied in 76 patients *page 2067*

Editorial: Referral Bias and the Efficacy of Radionuclide Stress Tests: Problems and Solutions *page 2074*

Serial Tomographic Imaging with Technetium-99m-Sestamibi for the Assessment of Infarct-Related Arterial Patency Following Reperfusion Therapy

One hundred and nine patients with acute myocardial infarction were studied with tomographic sestamibi imaging both acutely and again 18-48 hr later. Perfusion defect extent and defect area were measured on both studies.
..... *page 2080*

Early Thallium Imaging After Percutaneous Transluminal Coronary Angioplasty: Tomographic Evaluation During Adenosine-Induced Coronary Hyperemia

The immediate results of ²⁰¹Tl imaging during adenosine-induced coronary hyperemia were examined in 25 patients with one-vessel disease approximately 4 days after percutaneous transluminal coronary angioplasty.
..... *page 2086*

Can Technetium-99m-Mercaptoacetyltryglycine Replace

Technetium-99m-Dimercaptosuccinic Acid in the Exclusion of a Renal Scar?

Fifty-nine children with previous urinary tract infections underwent both ^{99m}Tc-DMSA and MAG3 studies within 4 wk of each other. Differential function and assessment of the images were undertaken *page 2090*

Volume Expanded Diuretic Renography in the Postnatal Assessment of Suspected Uretero-Pelvic Junction Obstruction

Eighteen patients with a mean age of two months underwent a total of 36 scans using intravenous volume expansion and furosemide diuresis.
..... *page 2094*

Editorial: Tracking the Natural History of Infantile Hydronephrosis with Diuretic Renography *page 2098*

Cerebral Glucose Metabolic Rates After 30 and 45 Minute Acquisitions: A Comparative Study

Sixteen subjects received two sets of ¹⁸F-DG PET scans commencing 30 and 45 min following intravenous injection of ¹⁸F-DG *page 2103*

Esophageal Scintigraphy: Reproducibility and Normal Ranges

In order to establish normal ranges and variations, 60 healthy subjects, mean age 43 yr, underwent esophageal scintigraphy using [^{99m}Tc]pertechnetate-labeled water *page 2106*

Iodine-131 Contamination from Thyroid Cancer Patients

In eight patients treated with doses of ¹³¹I ranging from 3.7 to 14.8 GBq, activity levels were measured in room air, on room surfaces, the toilet, the patient's exhaled breath, skin, saliva and toothbrushes, and the gloves used by medical staff *page 2110*

Editorial: How Harmful to Others Are Iodine-131 Treated Patients?

..... *page 2116*

Detection of Extrapulmonary Tuberculosis with Gallium-67 Scan and Computed Tomography Correlation

The utility of the gallium scan for the evaluation of extapulmonary tuberculosis was evaluated in 23 patients.
..... *page 2118*

Left Ventricular Volume Calculation Using a Count-Based Ratio Method Applied to First-Pass Radionuclide Angiography

The authors offer a method for calculating left ventricular volume that requires neither a blood sample nor a distance measurement and is applicable to first-pass radionuclide angiography *page 2124*

Hypoxia in Human Gliomas: Demonstration by PET with Fluorine-18-Fluoromisonidazole

PET studies with [¹⁸F]fluoromisonidazole were performed in three patients with malignant glioma to demonstrate the feasibility of using this tracer and PET to detect hypoxia in vivo.
..... *page 2133*

Noninvasive Assessment of Regional Cardiac Adenosine Using Positron Emission Tomography

To image regional cardiac adenosine by PET, the enzymatic conversion of ¹¹C-labeled homocysteine thiolactone adenosine was used *page 2138*

Editorial: PET Imaging of Carbon-11-S-Adenosylhomocysteine: A Measure of Myocardial Energy Balance? *page 2144*

Chromatofocusing Studies Involving a Monoclonal Fab'

Chromatofocusing was employed to detect six bands of the Fab' derivative of murine monoclonal antibody ZCE-025 with isoelectric points ranging from 5.4 to 7.8 *page 2148*

c-erb B2 Protein Overexpression in Breast Cancer as a Target for PET Using Iodine-124-Labeled Monoclonal Antibodies

In order to provide a labeled antibody of the highest possible purity and immunoreactivity for clinical use, a study was undertaken to optimize the labeling parameters of ICR12 with radioiodines *page 2154*

Editorial: Radiolabeled Antibodies to Oncogene-Encoded Molecules for Tumor Imaging and Therapy
..... *page 2160*

Significance of Secondary Ion Mass Spectrometry Microscopy for Technetium-99m Mapping in Leukocytes

Secondary ion mass spectrometry was used to study ^{99m}Tc distribution by detecting and localizing ⁹⁹Tc, a daughter product with the same mass and chemical properties *page 2162*

Plasmapheresis in Radioimmunotherapy of Micrometastases: A Mathematical Modeling and Dosimetric Analysis

The authors examine the feasibility of combining plasmapheresis with a large administration of radiolabeled antibody in order to overcome the binding-site barrier when targeting hematologically distributed micrometastase. *page 2167*

Editorial: Radioimmunotherapy of Micrometastases: A Continuing Evolution *page 2180*

Development of a Monoclonal Antibody Specific for β /A4 Amyloid in Alzheimer's Disease Brain for Application to In Vivo Imaging of Amyloid Angiopathy

Monoclonal antibodies targeted to β /A4 amyloid were prepared and screened for effectiveness in visualizing amyloid angiopathy and senile plaques in postmortem Alzheimer's disease brain sections. They were as-

sessed again after enzymatic cleavage to produce Fab fragments and after labeling with ^{99m}Tc using a diamide dimercaptide ligand system. *page 2184*

Synthesis and Renal Excretion of Novel Technetium-99m-Labeled Organic Cations

Three ^{99m}Tc-labeled cationic cyclam complexes were synthesized and their renal clearance quantified in rats *page 2190*

Noninvasive Detection of Hypoxic Myocardium Using Fluorine-18-Fluoromisonidazole and Positron Emission Tomography

Fluorine-18-FMISO uptake in ischemic myocardium was investigated noninvasively with PET in 10 open-chest dogs subjected to either complete or partial occlusion of the left anterior descending coronary artery. *page 2196*

Radiotoxicity of Some Iodine-123, Iodine-125 and Iodine-131-Labeled Compounds in Mouse Testes: Implications for Radiopharmaceutical Design

Spermhead survival in mouse testis was used to investigate radiotoxicity of several intratesticularly localized radioiodinated pharmaceuticals. *page 2202*

Technetium-99m-HMPAO Cerebral Perfusion Scintigraphy: Considerations for Timely Brain Death Declaration

A featured characteristic of ^{99m}Tc-HMPAO, persistent cerebral activity, may be disadvantageous in the timely declaration of brain death. The authors offer suggestions for the optimal use of this radiopharmaceutical, given the timing concerns imposed by organ harvesting *page 2209*

Editorial: Brain Death: A Diagnostic Dilemma *page 2211*

Clinicopathologic Conferences: Complications and Sequela of High Dose Iodine-131 Therapy for Metastatic Well Differentiated Thyroid Carcinoma *page 2214*

An Assessment of Factors Which Influence the Effectiveness of the Modified In Vivo Technetium-99m-Erythrocyte Labeling Technique in Clinical Use

For each assessment, duplicate or triplicate blood specimens were withdrawn from 10 or more patients into syringes containing 700-900 MBq ^{99m}Tc as pertechnetate. After incubation, unbound ^{99m}Tc was measured and compared *page 2226*

Spatially Dependent Deadtime Losses in High Count Rate Cardiac PET

The distribution of singles rates around the scanner ring during static acquisition of ¹⁸F₂FDG, dynamic acquisition of slowly infused ¹⁸F₂FDG and bolus injections of ⁸²Rb or ¹⁵O-labeled water was studied in patients and phantoms *page 2232*

SPECT Quantification: A Simplified Method of Attenuation and Scatter Correction for Cardiac Imaging

Tissue contours determined from segmentation of a transmission scan were utilized to assign a priori determined attenuation coefficients for different tissue regions of the transaxial images. *page 2238*

Simultaneous Acquisition of Emission and Transmission Data for Improved Thallium-201 Cardiac SPECT Imaging Using a Technetium-99m Transmission Source

A technique for simultaneously acquiring ²⁰¹Tl SPECT and TCT data using a ^{99m}Tc sheet source and a method for compensating for the resulting cross-contamination of the emission data are evaluated in phantom and human studies *page 2246*