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Nonuniformity in Myocardial Accumulation of Fluorine-18-Fluorodeoxyglucose in Normal Fasted Humans

Under fasting conditions, there are regional variations in myocardial accumulation of FDG, which are visually apparent, not associated with concomitant change in oxidative metabolism or perfusion, and cannot be attributed to partial-volume effectsPage 1749

Editorial: Regional Heterogeneity of Cardiac Substrate Metabolism?

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Quantification of the Reversibility of Stress-Induced Thallium-201 Myocardial Perfusion Defects: A Multi-center Trial Using Bull's-eye Polar Maps and Standard Normal Limits

Fixed and reversible defects (85 and 124, respectively) were determined by visual interpretation in 140 patients at four centers. Regions were identified as reversible if their normalized difference between stress and 4 hours was >1.5 s.d. from the mean normal limits.Page 1761

Can Iodine-131 Whole-Body Scan Be Replaced by Thyroglobulin Measurement in the Post-Surgical Follow-up of Differentiated Thyroid Carcinoma?

Thyroglobulin levels were measured in 61 patients receiving L-thyrotroxine therapy after thyroidectomy, and again after suspension of therapy, before performing a whole-body scan with ¹³¹I. The data indicate that neither thyroglobulin levels nor whole-body scans alone can discriminate between patients with or without metastases.Page 1766

Editorial: Serum Thyroglobulin in the Management of Thyroid CancerPage 1771

Limited Precision of Lumbar Spine Dual-Photon Absorptiometry by Variations in the Soft-Tissue Background

In 21 volunteers and in 70 patients with osteoporosis, soft-tissue variations were larger than the expected random error, suggesting a source of error relative to the inhomogeneity of soft tissuePage 1774

Editorial: Dual-Photon Absorptiometry in Clinical PracticePage 1781

Administered Dose and Tumor Dose of Bleomycin Labeled with Cobalt-57 in Mice and Men

Tumor concentrations of labeled bleomycin in mouse tumor models and in human lung tumors using quantitative SPECT were compared. The results indicate that while the tumor dose in mice closely follows the administered dose, tumor dose and tumor-to-lung ratios in humans cannot be predicted from the administered dosePage 1784

Imaging of Tumor in Patients with Indium-111-Labeled Biotin and Streptavidin-Conjugated Antibodies: Preliminary Communication

The monoclonal antibody HMFG1 was conjugated with streptavidin and 1 mg was administered intravenously to each of 10 patients with documented squamous cell carcinoma of the lung. Two to three days later labeled biotin was administered intravenously. In eight patients, tumor was detected with biotin alone, but in three patients images were improved with the prior administration of conjugated antibodyPage 1791

Detection of Talocalcaneal Coalitions by Magnification Bone Scintigraphy

Magnification imaging of the tarsus on bone scintigraphy in the medial-lateral projection correctly identified talocalcaneal coalitions, of which seven of nine were fibrous or fibro-osseousPage 1797

Immunoscintigraphy of Ovarian Cancer with Indium-111-Labeled OV-TL 3 F(ab')₂ Monoclonal Antibody

A prospective study of 31 patients was undertaken in order to establish the safety and comparative diagnostic accuracy of immunoscintigraphy with ¹¹¹In-labeled antibodies for ovarian cancer. Apart from a transient rash in two patients, no adverse reactions were observed.Page 1802

A Comparative Study of Renal Scintigraphy and Clearance with Technetium-99m-MAG₃ and Iodine-123-Hippurate in Patients with Renal Disorders

Seventeen patients with different nephrourologic disorders or hypertension were first studied with hippurate (OIH) and then were reinvestigated with MAG₃ 2-8 days later. Despite some significant differences in renal handling, plasma distribution, and cell penetration, the authors conclude that MAG₃ compares well with OIH and has particular qualifications for dynamic renal scintigraphy.Page 1811

Myocardial Accumulation of Iodinated Beta-Methyl-Branched Fatty Acid Analogue, Iodine-125-15-(p-iodophenyl)-3-(R,S)methylpentadecanoic Acid (BMIPP), in Relation to ATP Concentration

This study suggests that BMIPP accumulation in the myocardium is closely correlated with the intracellular concentrations of high-energy phosphates, especially those of ATPPage 1818

Metabolism of β -Methyl-Heptadecanoic Acid in the Perfused Rat Heart and Liver

In the heart, 66% of β -methyl-heptadecanoic acid metabolism occurs via omega-oxidation, 33% by esterification, and less than 1% by alpha-oxidation. In the liver, 53% of β -methyl-heptadecanoic acid metabolism occurs via alpha-oxidation, 27% by omega-oxidation, and 20% via esterification.
.....Page 1823

The Potential of 2-Deoxy-2-[18 F]Fluoro-D-Glucose (FDG) for the Detection of Tumor Involvement in Lymph Nodes

The potential of FDG for PET imaging of nodal tumor metastases was evaluated by the study of its uptake into normal lymph nodes, tumor-involved lymph nodes, and subcutaneous xenografts in rodents.
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Editorial: Axillary Lymphoscintigraphy for Breast Cancer: Should We Do It? Can We Do It?Page 1835

Clinical Pathologic Conferences: Complex Partial Epilepsy: The Role of Seizure in Localizing Seizure Focus for Surgical Intervention ..Page 1839

Gallium-67/Stable Gadolinium Antagonism: MRI Contrast Agent Markedly Alters the Normal Biodistribution of Gallium-67

Scans from an 11-yr-old patient imaged 96 hours after administration of 67 Ga emulated the biodistribution of a traditional bone agent, but not 67 Ga. The patient had been injected with gadopentatate in conjunction with MRI 4 hours earlier.
.....Page 1844

Diagnostic Use of Angiotensin Converting Enzyme- (ACE) Inhibited Renal Scintigraphy in the Identification of Selective Renal Artery Stenosis in the Presence of Multiple Renal Arteries: A Case Report

A 50-year-old white female presented with multiple medical problems, including hypertension, atherosclerotic vascular disease, and an abdominal aortic aneurysm.
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Myocardial Uptake of Indium-111-Labeled Antimyosin in Acute Subendocardial Infarction: Clinical, Histologic, and Autoradiographic Correlation of Myocardial Necrosis

Two days after the injection of antimyosin the patient's clinical status deteriorated and he expired. Postmortem examination revealed severe three-vessel coronary artery disease. Autoradiography and histochemical staining correlated with scans obtained during life.
.....Page 1851

Radioimmunosintigraphy Using Iodine-131-anti-CEA Monoclonal Antibodies and Thallium-201 Scintigraphy in Medullary Thyroid Carcinoma: A Case Report

The authors offer a case report that illustrates the promise of 131 I-anti-CEA F(Ab) $_2$ for radiotherapeutic applications.Page 1854

Reconstruction of Fourier Coefficients: A Fast Method to Get Polar Amplitude and Phase Images of Gated SPECT

Using this technique, the time for acquisition and reconstruction is dramatically reduced, and the assessment of cardiac function in patients with significant cardiac rotation or other abnormalities is simplifiedPage 1856

CORT-EX: A Program for Quantitative Analysis of Brain SPECT Data

The authors have developed a program for extracting global as well as regional brain SPECT data on concentrations of radiopharmaceuticals. The program, studied in 27 normal subjects, appears to improve the evaluation of tracer distribution.
.....Page 1862

Evaluation of Techniques for the Elimination of "Hot" Bladder Artifacts in SPECT of the Pelvis

The validity of two filtering techniques was assessed through the use of a dynamic phantom model containing two hips and a bladder. While these techniques appear to significantly improve image quality, their use in the evaluation of the medial aspects of the hips remains questionablePage 1872

Three-Dimensional Assessment of Myocardial Oxidative Metabolism: A New Approach for Regional Determination of PET-Derived Carbon-11-Acetate Kinetics

In ten normal subjects, myocardial 11 C clearance rate constants (k) averaged 0.057 per minute. Regional k-values varied slightly in the normal left ventricle, with a small but significant segmental variation increase in 11 C clearance rates in the septal, anterior, and basal regions.
.....Page 1876

Treatment Planning for Internal Radionuclide Therapy: Three-Dimensional Dosimetry for Nonuniformly Distributed Radionuclides

Isodose contours representing spatially varying radiation doses are superimposed on CT images.
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