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The Influence of Plasma Glucose Level on Fluorine-18-Fluorodeoxyglucose Uptake in Bronchial Carcinomas

Fifteen patients with bronchial carcinomas, 12 males and 3 females, were studied using PET and FDG to assess plasma glucose levels on the dose absorption ratio of FDG uptake in bronchial carcinomas. *page 355*

Measurement of Regional Cerebral Glucose Utilization with Fluorine-18-FDG and PET in Heterogeneous Tissues: Theoretical Considerations and Practical Procedure

An optimal procedure for eliminating errors due to tissue heterogeneity in determination of rCMR_{glc} was evaluated in normal subjects during experimental periods up to 120 minutes after tracer injection. *page 360*

The Underestimation of Segmental Defect Size in Radionuclide Lung Scanning

The authors evaluated the accuracy with which four experienced observers were able to estimate the size of 24 defects of known anatomical location using images of segmental defects in ventilation produced by a bronchoscopic technique and ^{81m}Kr *page 370*

Improved Evaluation of Technetium-99m-Red Blood Cell SPECT in Hemangioma of the Liver

Planar imaging and conventional, static ^{99m}Tc-RBC SPECT presentation was compared with dynamic, three-view display of SPECT slices for 21 patients with 56 hemangiomas and 18 patients with malignant liver lesions. *page 375*

Prospective Study of Magnetic Resonance Imaging and SPECT Bone Scans in Renal Allograft Recipients: Evidence for a Self-Limited Subclinical Abnormality of the Hip

Serial bone scans were obtained from 72 patients over periods as long as 24 months after transplantation to analyze whether subclinical imaging abnormalities represent mild avascular necrosis. *page 381*

Influence of Dose Selection on Absorbed Dose Profiles in Radioiodine Treatment of Diffuse Toxic Goiters in Patients Receiving or Not Receiving Carbimazole

After a retrospective review of the records of 224 patients with diffuse goiters treated with radioiodine, half also receiving carbimazole, the dosimetric profiles of nine methods of dose selection were analyzed by simulation. *page 387*

First-Pass Radionuclide Angiographic Studies of Left Ventricular Function with Technetium-99m-Teboroxime, Technetium-99m-Sestamibi and Technetium-99m-DTPA

A comparison is presented of imaging results from age- and gender-matched patients with clinically normal left ventricular function who underwent resting first-pass studies with BATO, MIBI and DTPA. *page 394*

Clinical Outcome of Cardiac Patients with Negative Thallium-201 SPECT and Positive Rubidium-82 PET Myocardial Perfusion Imaging

The effect of correct image interpretation of coronary artery disease on the final management of patients and a comparison of that effect with patient management undertaken when a negative image was seen as the end point was evaluated in 27 patients identified as true-positive with ⁸²Rb and false-negative with ²⁰¹Tl *page 400*

Measurement of PDT-Induced Hypoxia in Dunning Prostate Tumors by Iodine-123-Iodoazomycin Arabinoside

The oxygenation status of both non-treated and PDT-treated Dunning R3327-AT prostate tumors growing in Fischer X Copenhagen rats was investigated with the novel hypoxic marker, ¹²³I-iodoazomycin arabinoside. *page 405*

Editorial: Second Generation Hypoxia Imaging Agents

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Does FDG Uptake Measure the Proliferative Activity of Human Cancer Cells? In Vitro Comparison with DNA Flow Cytometry and Tritiated Thymidine Uptake

The relationship between ³H-FDG uptake and the proliferative rate of a human ovarian adenocarcinoma cell line was examined in vitro *page 414*

Editorial: FDG Accumulation in Tumor Tissue.

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Modeling and Dosimetry of Monoclonal Antibody M195 (Anti-CD33) in Acute Myelogenous Leukemia

Compartmental modeling analysis of antibody pharmacokinetics from a Phase I trial of ¹³¹I-labeled monoclonal antibody M195 in acute myelogenous leukemia was used to estimate the tumor burden and absorbed dose in liver, spleen and red marrow *page 422*

Protein Kinase C Imaging Using Carbon-11-Labeled Phorbol Esters: 12-Deoxyphorbol 13-Isobutyrate-20-[1-¹¹C] Butyrate as the Potential Ligand for Positron Emission Tomography

Three typical phorbol esters were synthesized and then used to produce in vivo autoradiograms to demonstrate heterogeneous distribution in rat brain. *page 431*

Sampling Requirements for Dynamic Cardiac PET Studies Using Image-Derived Input Functions

Noise-free simulation studies were performed in order to evaluate the effect of temporal sampling on estimates of the parameters of a two-compartment kinetic model *page 440*

A General, Extracorporeal Immunoabsorption Method to Increase the Tumor-To-Normal Tissue Ratio in Radioimmunotherapy

A new method using bitinylated antibodies and an agarose-avidin column for extracorporeal immunoadsorption was evaluated in an animal model 24-48 hours after injection of bitinylated antibodiespage 448

Enthesopathy of the Patellar Tendon Insertion Associated with Isotretinoin Therapy

A ^{99m}Tc-MDP bone scan performed on a 34-year-old female for suspected osteomyelitis of the proximal tibia revealed focally increased activity in both tibial tuberosities.....page 455

Gallium-67-Citrate and Bone Scintigraphy in Disseminated North American Blastomycosis

A patient presenting with lung mass and destructive lesion in the sternum was investigated with chest radiographs, CT scan, ⁶⁷Ga-citrate and bone scintigraphy. At thoracotomy, granulomatous infection by *B. dermatitis* was identified in the removed tissuepage 458

Open Bronchial Stump Post-Pneumonectomy: Findings on Xenon-133 Ventilation Imaging

A wide-open bronchial stump documented both at bronchoscopy and later at autopsy allowed xenon gas to freely washout from the thoracic cavity, resulting in an unusual imaging pattern.page 462

Unusual Scintigraphic Findings in a Thyroid Adenoma

A 63-year old male, evaluated for fatigue and weight loss, presented with

a discordance of ¹²³I and ²⁰¹Tl images of the thyroid nodule.....page 465

Evaluation of Biomatrix Hydroxyapatite Ocular Implants with Technetium-99m-MDP

Technetium-99m-MDP scintigraphy utilized as a noninvasive method for determining vascularity of hydroxyapatite ocular implants was evaluated in a 47-year-old male who underwent enucleation of the left eye for spindle cell ocular melanomapage 467

The Bacterial Endotoxin Test in the PET Facility

Validation of a method by which the gel clot Limulus amoebocyte lysate test is performed in 20 minutes with sufficient sensitivity to meet the needs of PET laboratories is presentedpage 469

A Stationary Hemispherical SPECT Image for Three-Dimensional Brain Imaging

Reconstructions and measured performance specifications from two laboratory versions of the imager are presented.page 474

Recovery of the Human Striatal Signal in a Slice-Oriented PET Tomograph

By using striatal phantoms, the authors developed a method that corrects the striatal signal to a maximum value equivalent to that measured when the object is centered with respect to a slice. Results from application of the method to 26 human scans are discussed.page 481

A Simplified Method for Quantification of Myocardial Blood Flow Using Nitrogen-13-Ammonia and Dynamic PET

The utility of Patlak graphical analysis for quantification and parametric image generation of regional myocardial blood flow was investigated with ¹³N-ammonia and dynamic PET imaging in dogs and humans.....page 488

A New Graphic Plot Analysis for Cerebral Blood Flow and Partition Coefficient with Iodine-123-Iodoamphetamine and Dynamic SPECT: Validation Studies Using Oxygen-15-Water and PET

A new graphic plot method based on a two-compartment model for rapid, simultaneous estimation of rCBF and the partition coefficient was applied to dynamic data from human studies with ¹²³I-IMPpage 498

Clinicopathologic Conferences: Hepatobiliary Scintigraphy: Morphine-Augmented Versus Delayed Imaging in Patients with Suspected Acute Cholecystitis

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