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Bone Scintigraphy Following Intravenous Pamidronate for Paget's Disease of Bone

The extent to which bone scan changes parallel clinical response and variability in lesion behavior was studied in 25 patients with pagetic bone pain for more than two years. Page 1589

Gallium Imaging in Metastatic and Recurrent Soft-Tissue Sarcoma

Fifty-six patients with metastatic or recurrent soft-tissue sarcoma were evaluated by ⁶⁷Ga-citrate imaging. Page 1594

Significance of Increased Lung Thallium Uptake During Adenosine Thallium-201 Scintigraphy

The lung activity in 132 subjects divided into four groups, including normal volunteers and patients with multivessel coronary artery disease, was quantified relative to maximal myocardial activity in both an early anterior planar image and an unprocessed tomographic image. Page 1600

Bone Mineral Density of the Axial Skeleton in Acromegaly

To investigate the effects of GH excess on proximal femur and lumbar spine BMD, a case series of 25 patients with acromegaly documented by high plasma GH and IFG-1 concentrations was studied. Page 1608

Dosimetry and Biodistribution of an Iodine-123-Labeled Somatostatin Analog in Patients with Neuroendocrine Tumors

Pharmacokinetics and dosimetry of an ¹²³I-labeled somatostatin analog were evaluated in 30 patients with neuroendocrine tumors. Page 1613

Prospective Validation of a Single Sample Technique to Determine Technetium-99m-MAG3 Clearance

A prospective study of 34 patients with a wide range of renal function was undertaken to validate a single-sample technique for MAG3 clearance. Page 1620

Unilateral Voluntary Hand Movement and Regional Cerebral Uptake of Technetium-99m-Exametazime in Human Control Subjects

Regional uptake of ^{99m}Tc-exametazime was determined in 12 healthy controls before and during a thumb-digit opposition task. Functional changes in brain metabolism were analyzed with SPECT. Page 1623

Semiquantitative Assessment of Myocardial Blood Flow and Viability Using Polar Map Displays of Cardiac PET Images

Eleven human controls were utilized to study a semiquantitative analysis technique for mapping the geographic extent and severity of flow defects, relative to glucose utilization and flow/metabolism mismatches. Page 1628

Crossed Cerebellar Hypoperfusion in Unilateral Major Cerebral Artery Occlusive Disorders

Regional blood flow and oxygen metabolism in the cerebral and cerebellar cortices were evaluated with PET in 15 patients with unilateral major cerebral artery occlusive disorders. Page 1637

Radionuclide Cardiac Volumes: Effect of Region of Interest Selection and Correction for Compton Scatter Using a Buildup Factor

The effects of region of interest selection and correction for Compton scattering were compared in 19 humans with contrast ventriculography and phantoms. Page 1642

Dose Fractionation of Radiolabeled Antibodies in Patients with Metastatic Colon Cancer

Twelve patients with metastatic colon cancer were treated with ¹³¹I-chimeric

B72.3 at total doses of 28 or 36 mCi/m² in two or three weekly fractions. Page 1648

Radiation Dosimetry for Doses of Indium-111-Labeled Anti-CEA-F(ab)₂ Fragments Evaluated from Tissue Distribution in Rats

Human radiation absorbed dose estimates were derived from detailed biodistribution and elimination data in a rat model following ¹¹¹In-labeled anti-CEA-F(ab)₂. Page 1654

The Effects of Regional Pulmonary Blood Flow on Protein Flux Measurements with PET

PET was utilized to evaluate whether changes in regional pulmonary blood flow or plasma volume affect calculations of the pulmonary transcapillary escape rate for ⁶⁸Ga-labeled transferrin. Page 1661

Use of a Left-Ventricular Time-Activity Curve as a Noninvasive Input Function in Oxygen-15-Water Dynamic Positron Emission Tomography

A mathematical model for correction of the spillover of radioactivity from both the myocardium into the left ventricular region of interest and the blood into the myocardial region of interest is presented. Page 1669

Clinically Important Characteristics of Maximum-Likelihood Reconstruction

SPECT images of a Jaszczak rod phantom, a single-slice Hoffman brain phantom and a uniform water-bath were acquired. Simulated noisy bar phantoms incorporating depth-dependent attenuation and blur were produced and compared to simulations with depth-independent attenuation and blur, as is the case for PET. Page 1678

Copper-64-Labeled Antibodies for PET Imaging

Copper-64, a positron-emitting radionuclide, was labeled to an anti-colorectal carcinoma monoclonal antibody and its fragments and evaluated

as potential imaging agents for PET.
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SPECT, Magnetic Resonance and Angiographic Features in a Moyamoya Patient Before and After External-to-Internal Carotid Artery Bypass

Brain SPECT changes in a patient with vaso-occlusive disease caused by moyamoya disease are presented. Clinical and magnetic resonance features are reviewed. Page 1692

Cerebral Blood Flow and Glucose Metabolism in a Patient Surviving One Year After Carbon Monoxide Intoxication

PET measurements of regional cerebral blood flow and glucose utilization rates were made 6 mo and 1 yr after carbon monoxide poisoning of a 29-yr old woman. Page 1696

Stress Fractures Associated with Osteosarcoma of the Lower Limb

Three patients with osteosarcoma of the femur developed abnormal radio-

pharmaceutical uptake, not associated with metastases, in the bones of the contralateral leg. Page 1699

Gallium-67 Distribution in a Man with a Decrease in Both Transferrin and Hepatic Gallium-67 Concentration

A patient with reduced transferrin concentration had a ⁶⁷Ga scintigram which showed uptake in a peritoneal abscess, pericarditis and pleural effusion but only faint liver uptake. . Page 1701

Necrotizing Tracheobronchitis Identified on an Indium-111-White Blood Cell Scan

Necrotizing tracheobronchitis in an adult on mechanical ventilation, in whom tracheobronchitis was diagnosed incidentally on an ¹¹¹In-white blood cell scan done for other purposes. Page 1704

Clinicopathologic Conferences: The Evaluation of the Patient with Gastroparesis Secondary to Insulin-Dependent Diabetes Mellitus
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Fast Maximum-Likelihood Reconstruction

Basic calculations involved in projection and backprojection are performed only once and then stored in computer memory, thereby significantly reducing computation time. Page 1710

The Technetium-99m-DTPA Renal Uptake—Plasma Volume Product: A Simplified Estimation of Glomerular Filtration Rate

An image-based method for estimating quantitative renal glomerular filtration rates by calculating the product of the renal uptake rate and plasma volume as presented. Page 1712

MIRD Reports: MIRD Dose Estimate Report No. 16: Radiation Absorbed Dose from Technetium-99m-Diethylenetriaminepentaacetic Acid Aerosol

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Commentary: The Value of “The Putrescine Experience” Page 1720