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Thallium-201 SPECT Imaging of Brain Tumors: Methods and Results

Consistently correcting for tissue attenuation, in order to achieve better lesion discrimination, and the methodologic limitations imposed by partial volume effects at the limits of resolution are discussed.Page 965

Editorial: Systematic Evaluation of Primary Brain Tumors

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Evaluation of Vasospasm Secondary to Subarachnoid Hemorrhage with Technetium-99m-Hexamethyl-Propyleneamine Oxime (HM-PAO) Tomoscintigraphy

Fifteen patients with subarachnoid hemorrhage secondary to aneurysm rupture submitted to a total of 26 tomographic ^{99m}Tc-HM-PAO brain examinations that were correlated with angiography or transmission CT. Agreement in 23 of the 26 series of exams, suggests that ^{99m}Tc-HM-PAO tomography could be useful for the evaluation of patients with suspected vasospasm.Page 972

Excretion of Iodine-123-Hippuran, Technetium-99m-Red Blood Cells, and Technetium-99m-MAA into Breast Milk

The authors present previously unavailable data on the excretion of ¹²³I-hippuran into breast milk and compare their results with the data on other radiopharmaceuticals relative to the published guidelines for breast-feeding mothers.Page 978

Colon Transit Scintigraphy in Health and Constipation Using Oral Iodine-131-Cellulose

Eleven normal and 29 constipated patients were given 4 MBq of ¹³¹I-cellulose orally; sequential ab-

dominal scans were performed at 6, 24, 48, 72, and 96 hours. The use of oral radiotracers in the investigation of constipation appears promising.Page 985

Lymphoscintigraphy and Lymphedema of the Lower Extremities

The flow and transport of lymph was studied by lymphoscintigraphy in the lower extremities of 39 consecutive patients in whom lymphedema of one or both legs was suspected clinically. Resulting serial data, the authors conclude, is superior in diagnostic yield than a single 3-hour scintigram ...Page 990

In-Vivo Traffic of Indium-111-Oxine Labeled Human Lymphocytes Collected by Automated Apheresis

Progressive uptake of activity in normal, nonpalpable axillary and inguinal lymph nodes was seen from 24 to 96 hours in five normal volunteers. Accumulation of radioactivity was also demonstrated at the forearm skin test site.Page 999

In Vitro and In Vivo Evaluation of Iodine-123-Ro 16-0154: A New Imaging Agent for SPECT Investigations of Benzodiazepine Receptors

Purified iodine-123-Ro 16-0154 was found to be stable in rat brain preparations and to be metabolized in rat liver preparations. Pharmacologic properties were comparable to flumazenil. Biodistribution in rats resulted in a brain-to-blood ratio of 16. Labeled RO 16-0154 may have potential for use in the diagnosis of various forms of epilepsyPage 1007

Human Pancreas Scintigraphy Using Iodine-123-Labeled HIPDM and SPECT

Pancreatic uptake of HIPDM was lower in the cases of chronic pancreatitis than in normal controls and was not apparent in the lesions of pancreas cancer, suggesting an accumulation in the pancreas might relate to pancreatic acinar cell functions.Page 1015

Pentoxifylline (Trental) Does Not Inhibit Dipyridamole-Induced Coronary Hyperemia: Implications for Dipyridamole-Thallium-201 Myocardial Imaging

The hyperemic response to dipyridamole in seven open-chest anesthetized dogs after pretreatment with pentoxifylline or theophylline was studied ...Page 1020

Editorial: Pharmacologic Stress with Dipyridamole: How Lazy Can One Be?

.....Page 1025

Pharmacokinetics Studies of Mouse Monoclonal Antibodies to a Rat Colon Carcinoma: I. Comparison of Biodistribution in Normal Rats, Syngeneic Tumor-Bearing Rats, or Tumor-Bearing Nude Mice

The authors address the lack of information on the relevance of pharmacokinetics in a xenogeneic model to those of syngeneic tumors. They conclude that the differences observed in their studies have important implications for understanding the basis for successful clinical use of murine MAbsPage 1028

Iodine-131-Labeled F(ab')₂ Fragments Are More Efficient and Less Toxic than Intact Anti-CEA Antibodies in Radioimmunotherapy of Large Human Colon Carcinoma Grafted in Nude Mice

During 1 week, beginning 18 days

after the transplantation of human colon carcinomas ranging from 115 to 943 mm³, nude mice were treated with repeated intravenous injections of either ¹³¹I-labeled F(ab')₂ or ¹³¹I-labeled corresponding intact antibodies from a pool of four MABs directed against distinct epitopes of CEAPage 1035

Editorial: F(ab')₂ Fragments Versus Intact Antibody—An Isodose Comparison ...Page 1045

Thrombus Imaging: A Comparison of Radiolabeled GC4 and T2G1s Fibrin-Specific Monoclonal Antibodies

When GC4 was labeled with ¹¹¹In and radioimmunoimaging was performed in dogs containing 1-day-old thrombi, four-hour images were only suggestive, though the thrombus was evident after 20 hours. In these dogs, the thrombus/blood ratio was ~ 50% better with GC4. In heparinized dogs with 3-day-old thrombi, ¹¹¹In-GC4 localization was 1.9 times higher than T2G1s and the thrombus-to-background ratios were ~ 2.5 times greaterPage 1048

Editorial: Of Monoclonal Antibodies and Thrombus-Specific ImagingPage 1055

A Comparative Autoradiographic Study Demonstrating Differential Intratumor Localization of Monoclonal Antibodies to Cell Surface (LYM-1) and Intracellular (TNT-1) Antigens

Qualitative autoradiographic analyses revealed that Lym-1 accumulated at the periphery of the target tumor. By contrast, TNT-1 lost its initial peripheral distribution and demonstrated progressive concentration in the center of the tumor.Page 1059

Editorial: One Step Forward with Nonspecifically-Specific Monoclonal AntibodiesPage 1066

Myocardial Redistribution of

Technetium-99m-Methoxyisobutyl Isonitrile (SESTAMIBI)

Studies of anesthetized dogs who underwent occlusion of the left anterior descending artery indicated that following transient ischemia and reperfusion Tc-SESTAMIBI undergoes myocardial redistribution, although more slowly and less completely than thallium-201.Page 1069

In Vitro and In Vivo Properties of Human/Mouse Chimeric Monoclonal Antibody Specific for Common Acute Lymphocytic Leukemia Antigen

The efficient production of human/mouse chimeric monoclonal antibodies specific for an acute lymphocytic leukemia antigen, and labeled without loss of immunoreactivity, is discussed.Page 1077

Uptake of Indium-111 in the Liver of Mice Following Administration of Indium-111-DTPA-Labeled Monoclonal Antibodies: Influence of Labeling Parameters, Physiologic Parameters, and Antibody Dose

The authors conclude that two strategies may reduce activity levels in the liver: elimination of physiologic phenomena compromising a low-liver uptake by using bispecific MABs, or the development of metal chelates which remain intact during the catabolism of MAB-conjugates, thus ensuring excretion of labeled species.Page 1084

Clinical Pathologic Conferences: Focal High Uptake of HM-PAO in Brain Perfusion Studies—A Clue in the Diagnosis of Encephalitis.Page 1094

Periarticular Tumoral Calcinosis and Hypercalcemia in a Hemodialysis Patient Without Hyperparathyroidism: A Case Report

Soft-tissue calcifications developed

three years after the onset of hemodialysis, culminating five years later in voluntary withdrawal from dialysis because of resulting discomfort and lack of mobility. Dynamic acquisition during bone scintigraphy revealed corresponding rates of calcium uptake in soft tissues and the adjacent bone, implying high blood flow rates and metabolic activity.Page 1099

Case Report: Malignant Fibrous Histiocytoma: Etiology for a Cold Defect on Technetium-99m-Methylene Diphosphonate Bone Scan

This case report demonstrates plain film, CT, and gallium scan findings for a retroperitoneal MFH. Secondary bony involvement, as seen in this case, is only present in ~ 20% of the cases. The bone scan in this case reveals a "cold" defect of the L2 vertebral body with no significant soft-tissue uptakePage 1103

Placental Localization in Abdominal Pregnancy Using Technetium-99m-Labeled Red Blood Cells

In a patient with third trimester abdominal pregnancy with fetal demise, ^{99m}Tc-labeled erythrocytes localized in the placenta preoperatively after nonvisualization by ultrasonography and arteriography.Page 1105

Radionuclide Detection of Primary Pulmonary Osteogenic Sarcoma: A Case Report and Review of the Literature

X-rays of an elderly white male admitted for right inguinal herniorrhaphy revealed a large mass in the lower lobe of the left lung. CT-directed needle biopsy was non-diagnostic. A technetium-99m-MDP bone scan revealed intense soft-tissue activity with no evidence of abnormal activity in the osseous skeletonPage 1109