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**Exercise Whole-Body Thallium Scintigraphy in the Diagnosis and Evaluation of Occlusive Arterial Disease in the Legs**

Whole-body thallium scans were taken immediately and at 4 hours following treadmill exercise in 36 healthy individuals and in 17 patients with occlusive arterial disease. Using the criteria of uptake and symmetry, suspected occlusive arterial disease was detected with high sensitivity and specificity. ....Page 1443

**Radioimmune Imaging of Bone Marrow in Patients with Suspected Bone Metastases from Primary Breast Cancer**

Data from 32 patients with suspected metastases from primary breast cancer supports the concept that in the time course of bone invasion, bone marrow is first invaded. Patients with risks of bone metastases due to stage of disease or clinical suspicion of bone metastases and who present with normal or benign bone scans may benefit from a bone marrow scan. ....Page 1450

**Brain Perfusion SPECT Using an Annular Single Crystal Camera: Initial Clinical Experience**

The annular single-crystal brain camera (ASPECT) system was evaluated clinically by the use of a Hoffman brain phantom and seven subjects, of whom two were normal controls, three had previous cerebral infarction, and two had dementia. ....Page 1456

**Sincalide-Augmented Quantitative Hepatobiliary Scintigraphy (QHBS): Definition of Normal Parameters and Preliminary Relationship Between QHBS and Sphincter of Oddi (SO) Manometry in Patients Suspected of Having SO Dysfunction**

Normal QHBS parameters were determined in 29 patients. When 10

patients suspected of having SO dysfunction were studied prospectively using SO manometry and QHBS, there was agreement in 7 cases (4 normal, 3 abnormal). No significant correlation existed between the quantitative parameters of the two tests. ....Page 1462

**Editorial: Quantitative Hepatobiliary Scintigraphy** ....Page 1468

**Scintigraphic Assessment of Indium-111-Labeled Granulocyte Splenic Pooling: A New Approach to Inflammatory Bowel Disease Activity**

Scans were acquired in 96 patients who were divided into six groups: normal volunteers, inflammatory rheumatism, abscesses, ulcerative colitis, colonic Crohn's disease, and ileal Crohn's disease. There was a significant correlation between fecal excretion of <sup>111</sup>In and a fall in splenic activity (FSA) in patients with inflammatory bowel disease and between variations in FSA and in fecal excretion of <sup>111</sup>In. ....Page 1470

**McCune-Albright Syndrome: The Patterns of Scintigraphic Abnormalities**

The scintigraphic distribution of fibrous dysplasia was examined in 22 patients with McCune-Albright syndrome. The most frequently affected areas were the base of the skull (82%), legs (64%), femora (59%), mandible (50%), and facial bones (45%). ....Page 1474

**Iodine-125-MIBG to Treat Neuroblastoma: Preliminary Report**

Three children with Stage III neuroblastoma were treated with

[<sup>125</sup>I]MIBG in a Phase I toxicity study. Of the normal tissues, platelet and leukocyte formation was the most vulnerable to the radiation. One patient died of progressive neuroblastoma, but the other two exhibited only modest reductions in circulating levels of platelets and leukocytes following whole-body radiation treatment. ....Page 1479

**Serum Osteocalcin Measurements in Prostate Carcinoma Patients with Skeletal Deposits Shown by Bone Scintigram: Comparison with Serum PSA/PAP Measurements**

Serum osteocalcin, prostate-specific antigens (PSA) and/or prostate acid phosphatase (PAP) were measured by radioimmunoassay and immunoradiometric assay in 18 men positive for bone metastases. Six showed elevation of osteocalcin, all of whom had extensive bone metastases. All 18 men had high serum PSA and/or PAP levels. ....Page 1486

**Intravenous Erythromycin Dramatically Accelerates Gastric Emptying in Gastroparesis Diabeticorum and Normals and Abolishes the Emptying Discrimination Between Solids and Liquids**

Gastric emptying was determined in patients using <sup>99m</sup>Tc-sulfur colloid and <sup>111</sup>In-DTPA in water. Following a baseline study, each patient received a 15-min i.v. perfusion of Erythromycin, which dramatically accelerated gastric emptying of both solids and liquids. After chronic oral administration, solid and liquid emptying remained significantly accelerated. ....Page 1490

**A Model of Gastric Emptying in Cats Shows Solid Emptying is Prompted by MK-329: A CCK Antagonist**

Gastric emptying of a labeled liquid and solid meal was measured before and after administration of an oral CCK antagonist. ....Page 1494

**Receptor Scintigraphy with a Radioiodinated Somatostatin Analogue: Radiolabeling, Purification, Biologic Activity, and In Vivo Application in Animals**

In vivo application of this radioligand for the detection of SS14 receptor-bearing tumors was investigated by scintigraphy. In rats injected intravenously, <sup>123</sup>I-Tyr-3-octreotide cleared rapidly from the circulation. While limiting the amount of available tracer, the rapid clearance benefited the tumor imaging. . . . .Page 1501

**Metabolism of Indium-111-Labeled Murine Monoclonal Antibody in Tumor and Normal Tissue of the Athymic Mouse**

Athymic mice bearing colonic tumors were injected with <sup>111</sup>In-labeled murine MABs. Liver, kidney, and tumor were extracted and the supernatants were analyzed. The activity in normal tissue was associated with native MAB and with several metabolites that appeared to be <sup>111</sup>In-SCN-Bz-DTPA bound to peptide fragments. . . . .Page 1510

**Immunoscintigraphy of Human Tumors Transplanted in Nude Mice with Radio-labeled Anti-ras p21 Monoclonal Antibodies**

Clear images of cancers were obtained seven days after injection of the antibody. No localization of labeled control antibody was observed. The ratio of tissue/blood radioactivity and the %ID/g in the tumor were significantly higher than in the other organs by Day 8. The specific localization index was also higher in the tumor than in other tissues. . . . .Page 1520

**Iodine-125 NRLU-10 Kinetic Studies and Bismuth-212-NRLU-10 Therapy of LS174T Multicell Spheroids**

Human colon adenocarcinoma spheroids were used to evaluate the efficacy of alpha emitter-labeled antibodies in a three-dimensional model. Initial kinetic studies revealed that a large number of binding sites/cell and high affinity slowed penetration. Therapy was very effective in killing single cells but ineffective in spheroids. . . . .Page 1527

**Comparison of the Distribution of Bromine-77-Bromovinyl Steroidal and Triphenylethylene Estrogens in the Immature Rat**

The highest concentrations in the estrogen target tissues and the highest target tissue-to-blood ratios were found with [<sup>77</sup>Br]bromovinyl-methoxyestradiol, but with high nonspecific uptake as well. The triphenylethylene estrogen showed comparable specific uptake in estrogen target tissues at 2 hr, but better apparent retention at later time points. . . . .Page 1534

**Clinical Pathologic Conferences: Multifocal Skeletal Uptake of Labeled Leukocytes: Infection Versus Tumor Metastasis**

. . . . .Page 1543

**Indium-111-Labeled Leukocyte Uptake in Neoplasm: Phagocytosis by Tumor Cells?**

With the presumption of myositis ossificans, which may contain marrow elements, <sup>99m</sup>Tc-sulfur colloid imaging was performed. Leukocyte and sulfur colloid images were virtually identical. Subsequent excision of the mass revealed a malignant fibrous histiocytoma with associated metaplastic bone formation. . . . .Page 1548

**Splenic Accumulation of Technetium-99m-Methylene Diphosphonate in Chronic Myelogenous Leukemia**

Intense splenic activity was incidentally observed on a bone scan performed for the evaluation of cellulitis versus osteomyelitis in a

patient with chronic myelogenous leukemia. . . . .Page 1552

**Three-Phase Radionuclide Bone Imaging in Stress Injury of the Anterior Iliac Crest**

Two adolescents with stress-related avulsion injury of the anterior iliac crest apophysis are presented. Increased tracer concentration in the anterior iliac crest area is present on blood-pool and delayed images. . . . .Page 1554

**Peripheral Arteriovenous Malformations: Diagnosis and Localization by Intraarterial Injection of Technetium-99m-MAA**

A single patient with lower limb AV malformation was subjected to radionuclide angiography with <sup>99m</sup>Tc-labeled MAA. The authors suggest that this method has utility both for the diagnosis and quantitation of AV shunting and for localizing the shunting site. . . . .Page 1557

**Scatter and Attenuation Correction in SPECT Using Density Maps and Monte Carlo Simulated Scatter Functions**

A reconstructed emission map is used as an estimate of the source distribution to calculate the scatter contribution. That contribution is then subtracted from the original projection prior to attenuation correction. The attenuation correction method uses density maps for the attenuation correction of projection data. . . . .Page 1560

**Kit Preparation of Technetium-99m-Mercaptoacetyltriglycine: Analysis, Biodistribution and Comparison with Technetium-99m-DTPA in Patients with Impaired Renal Function**

A <sup>99m</sup>Tc-MAG<sub>3</sub> kit is likely to be of value in renal transplant assessment and in cases of significant renal impairment. Such a kit does not appear to offer significant advantages over <sup>99m</sup>Tc-DTPA in routine renal imaging. . . . .Page 1568