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## Skeletal Assessment in Neuroblastoma: The Pitfalls of [<sup>123</sup>I]MIBG Scans

The authors compared [<sup>123</sup>I]MIBG and <sup>99m</sup>Tc-MDP for the detection of skeletal involvement by neuroblastoma in 44 children with the disease. Their studies indicate underassessment of involvement on the MIBG scans, leading them to conclude that MIBG should not be substituted for <sup>99m</sup>Tc-MDP bone scans in the staging of neuroblastoma . . . . . Page 129

## Editorial: The Controversy About the Nuclear Medicine Investigation of Neuroblastoma . . . . . Page 135

## Indium-111-Antimyosin Antibody Imaging for Detecting Different Stages of Myocardial Infarction: Comparison with Technetium-99m Pyrophosphate Imaging

Preliminary data suggest that the abnormal myocardial uptake of antimyosin persists beyond the first two weeks, when PPI no longer accumulates. AM scans may then be considered to provide a sensitive diagnosis of subacute as well as acute myocardial necrosis . . . . . Page 136

## Editorial: 'Hot Spot' Imaging Agents for Acute Myocardial Infarction . . . . . Page 143

## Thallium-201 SPECT Increases Detectability of Thyroid Cancer Metastases with Thallium-201-Chloride

SPECT and planar images were compared in 41 post-thyroidectomy patients with differentiated thyroid carcinoma and one with medullary carcinoma. Of 20 patients with

known metastatic disease, planar images were positive in 12 (60%), while SPECT revealed an additional 5 patients (85%) . . . . . Page 147

## Assessment of the Splanchnic Vascular Capacity and Capacitance: A New Application of Equilibrium Blood-Pool Scintigraphy

The usefulness of equilibrium blood-pool scintigraphy to study acute changes of the splanchnic vascular capacity and pressure-volume relationship, was studied in both human (28 patients) and animal (12 dogs) experiments . . . . . Page 154

## Editorial: Importance of Scintigraphic Measurements of Human Splanchnic Blood Volume . . . . . Page 160

## Metabolic Fate of [<sup>13</sup>N]Ammonia in Human and Canine Blood

Analysis of the metabolic fate of ammonia suggests that a correction of the arterial input function of <sup>13</sup>N-metabolites is required to accurately quantify the arterial input function of [<sup>13</sup>N]ammonia for myocardial blood flow studies . . . . . Page 163

## Pediatric Solid Tumors: Evaluation by Gallium-67 SPECT Studies

The authors offer a retrospective study of 37 children as evidence of the superiority of gallium-67 SPECT imaging to standard planar views of the pediatric patient. Studies were correlated with clinical and radiologic findings and, where possible, with histopathologic confirmation . . . . . Page 168

## A New Method for Noninvasive Quantitation of Segmental Myocardial Wall Thickening Using Technetium-99m 2-Methoxy-Isobutyl-Isonitrile Scintigraphy—Results in Normal Subjects

The author's method, applied to patients with coronary artery disease and regional wall abnormalities, may provide clinically useful information about the relationship between the site and extent of perfusion defects and myocardial dysfunction. . . . . Page 173

## Experimental Test-Object Study of Electronically Collimated SPECT

The imaging performance of a prototype electronically collimated SPECT camera was evaluated. Three-dimensional images of test objects are reported. Evidence of sensitivity gain increases with increasing energy suggests potential for this method in high-energy SPECT studies . . . . . Page 178

## Labeling of Human Clots In Vitro with an Active Site Mutant of t-PA

Researchers have developed an amidolytically inactive mutant of t-PA, which binds rapidly and specifically to human thrombi in vitro and clears quickly from the circulation in vivo—characteristics which suggest a high potential for clot imaging . . . . . Page 187

## Sex-Dependent Differences in N-(3-[<sup>18</sup>F]Fluoropropyl)-N-Nordiprenorphine Biodistribution and Metabolism

Research into this new opioid receptor ligand has uncovered significant sex-dependent differences in metabolism and distribution, sug-

gesting that this factor must be considered when rats are used to screen new radiopharmaceuticals . . . *Page 192*

**Immunoreactivity Affects the Biodistribution and Tumor Targeting of Radiolabeled Anti-P97 Fab Fragment**

Highly immunoreactive fragments were compared to low immunoreactive fragments. The results detail how rapid blood clearance and the prolonged retention of activity in the tumor by the highly immunoreactive Fab fragments improved tumor targeting . . . . . *Page 202*

**Use of Isothiocyanatobenzyl DTPA Derivatized Monoclonal Antimyosin Fab for Enhanced In Vivo Target Localization**

Utilization of this bi-functional chelation agent enhances target localization while minimizing hepatic activity. This may allow a more sensitive diagnostic application of <sup>111</sup>In-labeled AM-Fab . . . . . *Page 211*

**Metabolism of Indium Chelates Attached to Monoclonal Antibody: Minimal Transchelation of Indium from Benzyl-EDTA Chelate In Vivo**

Loss of <sup>111</sup>In from chelates creates several problems, including increased radiation dose to normal tissue. The authors evaluated several chelate analogs for their stability in

vivo. A benzyl-EDTA-<sup>111</sup>In-antibody-chelate-conjugate was more stable in human serum than a benzyl-DTPA-<sup>111</sup>In-chelate conjugate. Both conjugates are more stable than an unsubstituted DTPA conjugate. . . . . *Page 218*

**Clinical Pathologic Conference: Evaluation of Residual Myocardial Viability in a Patient with Acute Myocardial Infarction . . . . . *Page 225***

**Indium-111 Images Compared with Triphenyl Tetrazolium Chloride Staining in a Patient Six Days after Myocardial Infarction**

Indium-111-antimyosin imaging during life, findings on post-mortem imaging, and TTC staining of the heart of one patient support previous experimental findings that antimyosin antibody binds specifically to the acute irreversibly damaged myocardial cells . . . . . *Page 231*

**Bone Scintigraphy in Calcific Discitis of Childhood**

Bone scintigraphic findings of calcific discitis of childhood is described, and one new case is presented . . . . . *Page 234*

**Hepatic Uptake of Technetium-99m-HM-PAO in a Fetus**

The normal biodistribution of technetium-99m-HM-PAO includes uptake in the brain, liver, and kidneys. A pregnant patient scanned to confirm brain death, presented the opportunity to examine transplacental distribution of the radiopharmaceutical in the unborn fetus . . . . . *Page 237*

**Increased Accumulation of N-Isopropyl-(<sup>123</sup>I)P-Iodoamphetamine in Bronchial Carcinoid Tumor**

In a patient with recurrent bronchial carcinoid tumors radionuclide imaging revealed increased uptake of [<sup>123</sup>I]IMP in lesions of the brain, neck and paraaortic lymph nodes on tomographic and planar images. . . . . *Page 240*

**Endoxin Testing with Limulus Amoebocyte Lysate in Radiopharmaceuticals Containing Chelated Metallic Radionuclides and Chelating Agents**

Previously, it has not been possible to use the LAL gel formation technique for the detection of endotoxins in certain small volume radiopharmaceutical preparations. The authors have modified the technique to permit measurements in the presence of chelates and metals. . . . . *Page 243*