

IS-17 Preliminary Study Related to Tc(V)DMS in Metabolic Bone Disease: Ovariectomized Rat.

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Osteosarcomas, bone tumors and bone metastases have been detected with the pentavalent technetium complex of dimercaptosuccinic acid Tc(V)-DMS, a tumoral agent with lack of accumulation in normal adult bone. Tc(V)-DMS presents osteotropic properties in non-mature bone (children, rodents). In this work, the biodistribution of Tc(V)-DMS on bone tissue of ovariectomized young adult rats (Wistar-Mishima, 8 wk old, low calcium diet) is measured at variable post-surgery period and compared with sham-operated rats. Biodistribution studies are also carried out with conventional Tc-MDP bone agent. The effect of osteoclast inhibitor (Ga-nitrate) and glycolysis activation on the Tc(V)-DMS bone biodistribution are to be tested. Bone metabolism parameters determined in serum and urine. The Tc(V)-DMS skeletal accumulation increased with bone tissue turnover.

IS-18 Relationship of Extraosseous Accumulation in Bone Scintigraphy and Histopathology

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We evaluated the relationship of Tc-99m HMDP extraosseous accumulations (EOA), histopathology and various laboratory findings. In 155 of 4824 patients EOA were noted. In 163 EOA, 33.7% were found in the abdomen, 27.6% in chest, 22.7% in extremities, 9.8% in the pelvic area and 6.1% in the head and neck area. About 80% of EOA were due to malignant process, 11% due to benign process and in 9% diagnosis was unconfirmed. In the abdomen, 36.6% of the EOA were due to hepatocellular carcinoma and intestine carcinoma. In the chest, 46.7% of EOA were due to breast carcinoma. In the extremities, 28.7% of the EOA was due to sarcoma. In 83 of patients with EOA, the WBC count, serum Hb, serum Hct, platelet count, serum Ca, P, Fe and unsaturated iron binding capacity were noted. The WBC was elevated in patients with malignant process. The serum hemoglobin was below normal in benign and malignant process both in males and females. All other laboratory findings were within normal limits. EOA therefore is more frequently associated with malignant process and is often accompanied by leukocytosis and serum hemoglobulinemia.

IS-19 Bone scintigraphy in carcinoma cervix.

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Carcinoma cervix is the commonest cancer in females in India. Literature suggests that bone metastases in the disease are rare.

We analysed bone scans of 38 pts. (Age range = 32-75 yrs). Bone scan results were correlated with X-rays, CT scans and FNAC before arriving at the diagnosis of bone metastasis. Bone metastases were detected in 12 out of 30 pts. Bone scans detected metastasis in all (sensitivity = 100 %) while X-ray could detect only in 7 cases (sensitivity = 67%). Metastases to the axial skeleton were found to be most prominent. The results also revealed that bone metastases occur with increasing frequency as disease advances.

We conclude that skeletal metastases do occur with sufficient frequency in carcinoma cervix to justify skeletal scintigraphy before planning treatment.

IS-20 Biodistribution of Rhenium-186 complex of 3-amino-1-hydroxypropylidene-1, 1-bisphosphonic acid (APD)

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Preliminary studies of ^{186}Re -APD were carried out to determine its future use for bone pain palliation and for the treatment of hypercalcemia based on bone metastasis. We have labelled ^{186}Re with APD kit, injected in normal mice, performed biodistribution after 24hr and 48hr post injection. Biodistribution of ^{186}Re -APD was compared with $^{99\text{m}}\text{Tc}$ -HMDP and the highest accumulation of ^{186}Re -APD was found in bone (8.2 %ID/g at 48hr post injection). Bone to blood ratio was 47 at 24hr and 71 at 48hr after injection. These results suggest that ^{186}Re labelled APD has a promising potential as a therapeutic bone agent.