

## An Attempt at Diagnosing and Evaluating the Therapeutic Course of Metabolic Bone Diseases by Means of RI

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Bone scanning was performed on patients with osteomalacia as well as on those patients who were under treatment following the surgical removal of adenomas done under the diagnosis of primary hyperparathyroidism. Interesting findings thus obtained are documented in this paper.

### Method

These patients were investigated for RI concentration in bone tissues immediately after the intravenous injection of RI using Pho/Gamma scintiscamera and the data were analyzed by means of an RI data processing apparatus. Three hours after the intravenous dose of RI whole body

scans were made by the use of an SCC 750 W whole body scanner.

### Results

(1) The value  $m$  just after the intravenous RI dose was calculated from the equation  $C=kt^m$  according to the power function program. Patients with hyperparathyroidism were found to give a higher value than healthy subjects.

(2) Abnormally high RI concentration in the skull and a generalized increase in RI accumulation in bone tissues were noted in common in bone scintigrams of patients with hyperparathyroidism.

## Abnormal Unknown Accumulation of the Chest in Bone Scintigram

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67 entire bone scintigrams ( $^{99m}\text{Tc}$ -diphosphonate) were performed in 30 cases with hemiplegia caused by apoplexia. In 4 cases (5 scintigrams) of all, abnormal focal-spot accumulations were found in the chest scintiphoto, failed of abnormal chest rentgenogram (these would probably be accumulation in rib). All these accumulations were not necessarily localized in diseased side only,

and were not found on the scintigram which was taken two to seven months later. The value of serum alkaline phosphatase, and of calcium and phosphorus in serum and urine remained to normal in these four cases. It is suggested that these are neither bone metastasis of malignant tumor nor what caused by technical failure in preparation.

## Scintigraphic Findings of Rheumatoid Arthritis

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A comparative study of joint and bone scans made in a series of rheumatoid arthritis patients is reported. Subjected to this study were 240 joints from patients with stage I to IV classical or definite RA in accordance with the classification system of the American Rheumatic Associa-

tion.

Results: Of the entire joints scanned, 66 (or 27.5%) gave positive joint and positive bone scans, 102 (42.5%) provided negative joint and negative bone scans, 27 (12.7%) yielded positive joint and negative bone scans, and 44 (18.2%)