

Whole Body Bone Scintigram in Cases with Primary Lung Cancers

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In National Cancer Center Hospital, whole body bone scanning has been intensively carried out to search metastatic bone lesions with ^{99m}Tc -phosphate compounds. This is to report our results confined to the cases with primary lung cancers. There are 104 cases which are composed of 32 cases before and 72 cases after the initiation of treatment.

In the group of pre-treatment, 15 out of 32 showed positive findings. The numbers of positive cases in each histological type are as follows: 10 in 21 cases with adenocarcinoma, 2 in 7 squamous cell carcinomas and 3 in 4 anaplastic cell carcinomas. It is worthwhile to notice that 3 out of 11 cases with adenocarcinoma in Stage I already showed positive results.

In the group of post-treatment, 72 cases as a total, positive results were obtained in 47. The numbers of positive cases in each histological type are as follows: 33 in 44 cases with adenocarcinoma, 8 in 12 squamous cell carcinomas and 6 in 13 anaplastic cell carcinomas. In both pre- and post-

reatment groups, higher incidence of positive findings were noticed as "Stage" progressed.

Alkaline phosphatase levels were also studied in connection with the scintigrams, but there was no direct correlation between them. However, from the fact that positive scintigrams were obtained in 30 out of 45 cases with high alkaline phosphatase, the scintigraphic survey is recommended when high alkaline phosphatase was found in cases with pulmonary carcinoma.

Both x-ray pictures and scintigrams were available in 67 cases, and 40 of them showed equally positive or negative results. Twenty-five were found positive with scintigrams but negative with X-ray pictures. On the contrary, two were positive with X-ray pictures and negative with scintigrams; one had lesions in thoracic vertebrae and the other in lumbar vertebra.

Now, whole body bone scanning is very useful technique for us to search metastatic bone lesions in cases with pulmonary carcinomas.

Incorporation into Spleen and Liver of Radioactive Colloids

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Spleen image in liver scintigram changes with different radiocolloids for clinical use (^{198}Au -colloid, ^{99m}Tc -Sn-phytate and ^{99m}Tc -Sn-colloid).

Spleen and liver ratios (S/L ratio) of radiocolloids in mice were compared in radioactivity per gram in the time course.

The colloids of the larger particles are more rapidly incorporated into both liver and spleen. And the S/L ratio at 30 minutes after i.v. injection showed the largest value in ^{99m}Tc -Sn-colloid and the smallest value in ^{198}Au -colloid.

And in the other experiment, liver scintigram was

routinely taken by injection of radioactive colloid in the rabbit who was previously injected large quantity of non-radioactive colloid particles (about 100 times of clinical use). The scintigrams revealed slightly faint image, but S/L ratio was found no significant changes.

The Effect of RI-Diagnosis on Bone Disorders Difficult to Recognize by Simple Roentgenograms **Part 1 Stress Fractures**

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Fracture lines of the "stress fractures" are so delicate that we can hardly find it in early stage on simple bone roentgenograms.

This is a reason why the most common fractures are caused directly or indirectly by some violent forces, but stress fractures, as a rule, are resulting from minimal continuous forces, making early diagnosis more difficult.

Using radiopharmaceuticals; i.e. ^{99m}Tc pyro-

phosphonate or diphosphonate, we first confirmed to recognize the stressfractures before callus formation had appered on common roentgenograms, although callus formation is an indidrect sign of fractures.

We reported here some cases of stress fractures suffered from femur, tibia, fibula and metatarsus, comparing roentgenograms with scintigrams.

Effectiveness of Testosterone Potentiated ^{32}P Therapy and Availability of Bone Scan in Patients with Severe Bone Pain in Multiple Metastase of Bone

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Testosterone potentiated ^{32}P therapy has been used for palliative treatment of severe bone pain in multiple metastatic lesions. We have done this treatments in two patients with the prostatic cancer, one with the breast cancer and one with-

out the definitely diagnosed origin which is histologically shown as adenocarcinoma by the bone biopsy, since June, 1974. This report may be first in Japan.

The standard administration of testosterone