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-treatment 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.