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3 CASES OF RENAL HYPERCONCENTRATION IN Tc-99m-MDP BONE SCINTIGRAPHY. M.Nakama, T.Sugawara, H.Munehika and T. Kishida. Jichi Medical School.Tochigi.

It have been reported that the incidental abnormal renal imaging was obtained in bone scan using Tc-99m phosphate compounds. Some sort of renal abnormalities which are not suspected clinically can be detected occasionally, as reported by Lutrin et al that an abnormal hyperconcentration of Tc-99m-MDP can be seen in the kidneys, of whom patients have been treated by the chemotherapeutic drugs for malignant disease.

- Case 1. A 69-year-old male with malignant lymphoma. Patient received CQ 3.2 mg, VCR 1.7mg and PLS 10mg in 3 days prior to the scan.
- Case 2. A 49-year-old male with acute lymphatic leukemia. Patient received VCR 2mg, MTX 10mg and PSL 30mg in 5 days prior to the scan.
- Case 3. A 53-year-old female with primary lung cancer. Patient received VCR 1mg, Ex 50mg and MTX 50mg in 3 days prior to the scan.

All 3 cases were treated by VCR, and 2 of them by VCR and MTX. The phenomenon of renal hyperconcentration of MDP could be resulted from renal toxicity of antitumor drugs.

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EXTRA-OSSEOUS DEPOSITS OF Tc-99m LABELED PHOSPHATES. Y.Maeda,M.Honda,Y.Takahashi,K.Tokunaga,K.hasegawa,H.Shimura,T.Kitahara and T.Hishida. Department of Radiology,Showa University,School of Medicine. Tokyo.

In 1973 Berg et al. first reported an unusual deposit of Tc-99m labeled phosphates in the extra-osseous site, primary mammary carcinoma. In this our report, we reviewed extra-osseous deposits of Tc-99m labeled phosphates that appeared in 2 neuroblastomas, 2 pulmonary fibroses, 3 metastatic malignant neoplasms, 1 primary mammary carcinoma, 1 operation scar and 2 gall bladders. The mechanism of extra-osseous accumulation of phosphate may be related to calcium metabolism and/or collagen production in the tissues except for the gall bladder.

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ABNORMAL ACCUMULATIONS IN VERTEBRAE CAUSED BY BENIGN CONDITIONS IN CANCER PATIENTS. H. Oyamada, S. Terui, and H. Fukuma. National Cancer Center, Tokyo

From Jan. 1975 to Dec. 1977, 700 patients were examined by bone scanning with Tc-99m-phosphate compounds. Of these, 335 were found to have abnormal accumulations in vertebrae. They were carefully surveyed through their clinical records, and finally 156 were selected for this study (70 on the bases of autopsy findings and 86 from more than 1.5 year-follow-up studies). Abnormal accumulations were classified into two categories; significantly positive and equivocal.

Significant accumulations were found in 120, and equivocal in 21. The remaining 15 showed both significant and equivocal accumulations. In 19 out of 135 (120+15) patients the significant accumulations were due to benign conditions, whereas the equivocal accumulations were considered due to benign conditions in 17 of the 36 (21+15). The major factor for false positive was degenerative change, such as spondylosis deformans and disc degeneration, in either group of significant or equivocal accumulation.

Our careful investigation disclosed that some of the benign conditions could present somewhat different patterns from metastases. These are as follows: a cushion-like pattern in the intervertebral space in the cases with disc degeneration, an irregular marginal accumulation of the vertebral body and a vague (equivocal) accumulation covering the vertebral bodies in the cases with spondylosis deformans, and symmetrical accumulations due to sclerotic change in the intervertebral joints. These findings seem to be worthy of attention to avoid unnecessary irradiation.

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ABNORMAL ACCUMULATION OF RADIONUCLIDES IN RIBS. K.Yatomi and F.Kinoshita. Metropolitan Komagome and Okubo Hospitals. Tokyo.

Among 614 scintigrams performed to localize bone metastasis of malignant tumors during one year from 1978 through 1979, abnormal radionuclide accumulation was found on 306 scintigrams. Of these, 49 scintigrams showed abnormal accumulation in ribs. 49 scintigrams(49 patients) consist of 30 patients of breast cancer, 10 patients of lung cancer and others. Mammary cancer patients, preoperative and post operative, showed that 18 of 30 abnormal accumulations is fracture, in contrast to 4 metastases(the remaining 8 are in follow-up). Those types of accumulations which gradually disappeared were classified in bone fracture.

However, in contrast to breast cancer patients, patients of lung cancer exhibited local metastasis when similar findings were obtained, namely, 8 out of 10 scintigrams.

Our results are summarized as follows;
1. A series of spots indicate fracture.
2. A solitary spot of breast cancer patient often indicates fracture. 3. However, any abnormal spot on rib means metastasis in lung cancer.