Bone scintigraphy with Tc-99m MDP was performed in 23 patients with idiopathic femoral head necrosis. The patients were separated into three groups with following roentgenographic criteria: group A (6 cases) no definite abnormality, group B (9 cases) definite radioluency and patchy sclerosis in the femoral, group C (8 cases) destruction and deformity of the femoral head. Abnormality in the acetabulum. Scintigraphic abnormality was found in all patients with bilateral involvement in nine. Bone scintigraphy with Tc-99m MDP was helpful in diagnosis of idiopathic femoral head necrosis in early stage when roentgenogram usually showed no definite abnormality. CT was useful in spatial observation of abnormalities the joint space and femoral head.

Extraosseous accumulation of Tc-99m phosphate complexes was observed among several cases, fine calcifications were detected in histological examination. We suspected that the mechanism for extraosseous accumulation of the tracers is related to the calcium in the damaged cells and calcifications.

Bone scintigraphy using 99m-Tc dihydrogenetae was performed the subjects at the time of fracture passing every 1, 3, 6 months and 1, 2, 3, 4, 5 years respectively. Bone scintigraphy is a useful method to observe the therapeutic process of bone fracture, even after no accumulation of the radioisotope was observed in the fractured site, increased blood flow was observed on the affected area and the abnormal accumulated radioisotope was observed in the enchymal accretional line for the period extending 5 years after the fracture in all cases.

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Evaluating of computed tomography on the lesions detected by bone scintigraphy in cases of post-operative breast cancer. CT was performed on 100 lesions in 56 cases of post-operative breast cancer which were detected by bone scintigraphy with Tc-99m phosphorous compounds. And the results were discussed from the aspects of CT images and calcium content. And single photon ECT images and sagittal or coronal reconstruction of CT images were demonstrated in some cases. Results: CT images were classified into metastases (hardening, osteolytic, mixed and doughnut) and the others. Seventy lesions were diagnosed metastasis from CT images, and 14 lesions were suspected, but metastasis was not detected by CT. And 16 lesions were confirmed non-neoplastic changes. The same type of CT images in multiple lesions of patient was shown in 4 cases and in 16 cases several types of metastases were shown at the same term. Calcium content of vertebral body with hardening type of metastasis was 141.1±31.9 mg/ml, osteolytic type 92.4±6.0, doughnut type 122.3±25.8, mixed type 108.9±24.7 and metastasis suspected with no CT finding was 99.0±21.

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