

^{99m}Tc -MDP and ^{99m}Tc -MIBI scintimammography in patients with clinically suspicious breast cancer

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^{99m}Tc -MDP scintimammography(SM) was performed at the time of the preoperative bone scan in patients with suspicious breast cancer. These patients also had ^{99m}Tc -MIBI scintimammography before or after the bone scan. The purpose of this report is to compare ^{99m}Tc -MDP SM and ^{99m}Tc -MIBI SM with the surgical results.

Materials and Methods: Scintimammography with ^{99m}Tc -MDP was performed in 20 patients with palpable mass and radiologic suspicion or proven diagnosis of breast cancer preoperatively. Patients ranged in age from 34 to 72 . No male patient was included. Both prone lateral and supine anterior views were obtained for 10min. each 10-15min after IV administration of 740 MBq of ^{99m}Tc -MDP. The ^{99m}Tc -MIBI scintimammography was also performed before surgery. ^{99m}Tc -MIBI SM began in 5min. postinjection of 740MBq of ^{99m}Tc -MIBI with prone lateral views for 10min. Scintimammography was evaluated as positive or negative for presence or absence of focal localization of the tracers and the results were compared to histological findings.

Results: Breast cancer was histologically diagnosed in all patients (16 infiltrating ductal carcinoma, 2 comedocarcinoma, 1 phyllodes tumor , 1 paget disease). The size of tumor mass ranged 1.5-3cm. Lymph node metastasis was found in 4 patients by the histologic examination. The uptake of ^{99m}Tc -MDP in breast cancer was noted in all patients except two. One of the two patients was in post excisional biopsy state and the other was also negative in the MIBI scan. There was MDP axillary node uptake in 5 patients. Two of 5 patients with axillary lymph node uptake were false positive but they were all positive with ^{99m}Tc -MIBI scintimammography. Two masses found in MIBI scan of a patients cannot be separated on the MDP scan. It showed more diffuse uptake than MIBI scan. The concordance between MDP-SM with MIBI-SM(similar pattern of uptake) was 45% and the remaining cases showed not focal but more diffuse uptake around the tumor on MDP scan than MIBI scan. The sensitivity of MDP-SM for the detection of breast lesions was 90% and 57% for the lymph node lesion. There were the same in MIBI scintimammography, but the quality of MDP image was inferior to that of MIBI.

Conclusion: ^{99m}Tc -MDP scintimammography can demonstrate malignant breast lesions during the preoperative bone scan with a high accuracy. However, the scan quality is not as good as MIBI scintimammography.