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Tc-99m MIBI Scintimammogram in Patients with Clinically Suspicious Breast Cancer

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99mTc-MIBI(methoxy isobutyl isonitrile) was developed as a myocardial perfusion agent. The tracer also has been used for nonspecific tumor imaging of various tumors including breast cancer.

The purpose of our study was to evaluate the role of Tc-99m MIBI scintimammogram(SM) in patients with a high clinical suspicion of breast cancer.

Materials and methods; From Feb 1995 to Feb 1996, SM was performed in 75 patients with a clinical or radiographic(mammography and ultrasonography) suspicion of breast cancer. The patients' age ranged from 23 to 73. There was one male patient included in this study.

The subjects underwent planar SM 5min after the IV administration of 20-25mCi Tc-99m MIBI contralateral side of the breast lesion. Both prone lateral and supine anterior(arms up) views were obtained using a dual detector gamma camera. Limited number of patients in this group also had SPECT(4) and SM using MDP(11) as well, while having preoperative bone scan.

The patients were managed by quadrantectomy, modified radical mastectomy and beyond level II axillary node dissection.

Results; Fifty nine of 75 were proven to have breast cancer (invasive ductal carcinoma-45, intraductal ca in situ-1, invasive lobular ca-1, inflammatory ca-1, invasive tubular ca-1, mucinous ca-2, medullary ca-1, carcinoid-1, signet ring cell ca-1, malignant phyllodes tumor-1, anaplastic plasmacytoma-1, metastatic lesions-3). Lymph node metastases were noted in 23 of 59 patients. Sensitivity, specificity and accuracy of SM for breast lesions were 94.5, 66.7 and 87.6%, respectively (TP-52, TN-12, FP-6, FN-3). Respective numbers for LN status were 76.7, 89.4 and 83.8%(TP-23, TN-34, FP-4, FN-7)

Conclusion; Our results suggest that Tc-99m MIBI SM is an effective metodology in detection of breast cancer especially in young patients with dense breast.