DIAGNOSIS AND STAGING OF BREAST CANCER PATIENTS USING 99m TETROFOSMIN SCINTIMAMMOGRAPHY

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Axillary lymph node status is important in staging of breast cancer and the most relevant prognostic variable in breast cancer patients.

THE AIM OF THIS STUDY was to evaluate the possible role of 99m Tc-Tetrofosmin scintimammography (SMM) in detection of axillary lymph node metastases in breast cancer patients

METHOD: Twenty eight female patients (mean age 52.4) with 30 breast lesions suspicious for malignancy were comprised in the study. Standard mammography (MM), scintimammogaphy (SMM) and biopsy/surgery for final histopathologic (HP) diagnosis were performed in all of them. Patients were injected by 555 MBq ^{99m}Tc-Tetrofosmin intravenously, cubitaly, in the arm contralateral to the side of suspipious lesion. Seven minutes static scans or at least 2.0 million counts were obtained using single head gamma camera (Orbiter 75, Siemens). Planar images were acquired in left and right prone lateral view as well as in the supine position for an anterior view of chest and axillary region.

RESULTS: SMM scans of 30 breast lesions were compared to the definitive histopathology (HP) using decision matrix. SMM detected primary breast malignancy with 95% sensitivity, 60% specificity and 83% accuracy. Out of twenty patients with malignant disease (one patient with Cyst sarcoma phylodes avoided axillary's exploration) 19 patients underwent axillary lymph node dissection revealing metastases in 9 of them. The number of lymph nodes extracted and HP evaluated varied from 4 to 23 for patient. Increased tracer uptake in axilla was obtained in 5 patients, yielding 55% sensitivity and 80% accuracy in detecting lymph node metastases. No false positive results were found.

CONCLUSION: Our results showed that SMM has been a useful tool in imaging primary malignant lesions, although SMM in staging of breast carcinoma was less reliable. Further studies to evaluate the role of SMM in metastatic node involvement are necessary.