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The comparison of dual phase Tc-99m MIBI and Tc-99m MDP scintimammography in the evaluation of breast masses: Preliminary report

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The aim of this prospective study was to determine the diagnostic value of Tc-99m MDP scintimammography (SMG) for the detection of breast cancer in patients with breast masses and to compare the results with Tc-99m MIBI scintimammography. Twenty patients, categorized as suspicious, positive or benign for breast cancer according to the mammographic findings were included in the study. Dual phase Tc-99m MIBI and Tc-99m MDP SMG were performed in the prone lateral position within 5 days of each other. Although early and late Tc-99m MIBI SMG showed equal (90.4%) sensitivity, the specificity of late Tc-99m MIBI (87.5%) was found superior to early (62.5%) imaging. The overall sensitivity and specificity of early Tc-99m MDP SMG were 71.4% and 62.5%, respectively. Although late Tc-99m MDP imaging showed 100% specificity, its sensitivity was only 23.8%. In the patients with palpable masses, both early Tc-99m MDP and Tc-99m MIBI showed equal sensitivity (100%), but the sensitivity of early Tc-99m MIBI (37.5%) was found slightly higher than Tc-99m MDP (25.0%) for nonpalpable breast lesions. The sensitivity of Tc-99m MIBI and Tc-99m MDP SMG in detecting metastatic axillary involvement was 66.6% and 50%, respectively. High sensitivity and specificity together with its low cost, easy availability and the possibility of detecting bone metastases seems to make Tc-99m MDP a contributive agent in the evaluation of breast lesions as an alternative to Tc-99m MIBI.

Key words: breast cancer, scintimammography, Tc-99m MIBI, Tc-99m MDP