The Accuracy of PET-CT Scan in Detecting Axillary Lymph Node Metastasis in Breast Cancer

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Objective: To evaluate the accuracy of positron emission tomography CT scan in detecting axillary lymph node metastases compared to the pathology results in patients with primary breast cancer.

Setting: Breast Surgery Unit, King Hamad University Hospital, Bahrain.

Design: A Retrospective Comparative Study.

Method: Twenty-one newly diagnosed females with invasive breast cancer and staged using FDG-PET-CT scan. Images were evaluated by two experienced radiologists for any abnormal increase in axillary FDG uptake. Imaging results were compared to axillary lymph node pathology, such as sentinel lymph node biopsy, FNA cytology from axilla or axillary clearance.

Result: All patients had histopathology results that matched the PET-CT finding except 2 (10%) patients who matched the CT scan alone but not the PET scan. The sensitivity of the PET-CT for detection of axillary lymph node metastasis in this series was 80% and the specificity was 100%. Both sensitivity and specificity were noted to be high compared to other published data.

Conclusion: PET-CT scan is highly sensitive and specific in detecting axillary lymph nodes metastases in breast cancer. The sensitivity reached 80% and the specificity was 100% in our study; this could be attributed to the small number of patients and the improvement in the new generation of the PET-CT scanners with high resolution, which led to further increase in the diagnostic value. Therefore, recent evidence does not support the use of PET-CT scan to replace clinically negative axillary lymph nodes as initial assessment.

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