



From: [Annals of Surgical Oncology, 10\(6\):622–627](#)

Evaluation of Fluorodeoxyglucose Positron Emission Tomography in the Detection of Axillary Lymph Node Metastases in Patients With Early-Stage Breast Cancer

Background: The aim of this study was to assess the capacity of positron emission tomography (PET) with fluorodeoxyglucose (FDG) to determine axillary lymph node status in patients with breast cancer undergoing sentinel node (SN) biopsy.

Methods: Thirty-two patients with breast cancer and clinically negative axillary nodes were recruited. All patients underwent FDG-PET before SN biopsy. After SN biopsy, all patients underwent complete axillary lymph node (ALN) dissection.

Results: The SNs were identified in all patients. Fourteen patients (43.8%) had metastatic SNs (macrometastatic in seven, micrometastatic in six, and isolated tumor cells in one). The falsenegative rate of SN biopsy was 6.6% (1 in 15). FDG-PET identified lymph node metastases in 3 of the 14 patients with positive SNs. The overall sensitivity, specificity, and positive and negative predictive values of FDG-PET in the diagnosis of axillary metastasis were 20%, 100%, 100%, and 58.6%, respectively. No false-positive findings were obtained with FDG-PET.

Conclusions: This study demonstrates the limitations of FDG-PET in the detection of ALN metastases in patients with early breast cancer. In contrast, FDG-PET seems to be a specific method for staging the axilla in breast cancer. SN biopsy can be avoided in patients with positive FDG-PET, in whom complete ALN dissection should be the primary procedure.