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## Can FDG PET/CT and Thorax CT exclude N2 and N3 nodal disease in patients with breast cancer?

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**Purpose:** The purpose is to evaluate the diagnostic performance of FDG PET/CT and Thorax CT in preoperative evaluation of axillary lymph node metastasis (ALNM) in breast cancer patients and to assess whether FDG (fluorodeoxyglucose) PET/CT (Positron emission tomography–computed tomography) and Thorax CT can be used to exclude stage N2 and N3 metastatic disease in patients.

**Materials & Methods:** A total of 211 patients were included in this study and FDG PET/CT and Thorax CT findings were retrospectively reviewed. The diagnostic performance of FDG PET/CT and Thorax CT for diagnosis of ALNM was evaluated in all patients. We evaluated whether negative FDG PET/CT and Thorax CT findings can exclude advanced nodal disease (pN2-pN3) using the negative predictive value (NPV) in each group.

**Results:** 126 patients (59.7%) had axillary lymph node metastasis. The NPV of FDG PET/CT and Thorax CT in evaluation of ALNM was 92.9% and 93.6%, respectively. Preoperative FDG PET/CT and Thorax CT excluded 95.2% and 96.4% of N2 and N3 invasive ductal metastases and 84.6% of N2 and N3 invasive lobular metastases.

**Conclusion:** FDG PET/CT has no statistically significant difference compared to Thorax CT for evaluating the axillary lymph node status. Preoperative FDG PET/CT and Thorax CT excluded N2 and N3 invasive ductal and lobular metastases. The false negative rate for N2 and N3 invasive lobular cancer was significantly higher than that for invasive ductal cancer. PET/CT may act as a substitute for sentinel lymph node biopsy particularly invasive ductal cancer in future.

## Biography

Muhammet Arslan is a Radiologist and working as an Assistant Professor in Pamukkale University. He graduated from Osmangazi University School of Medicine in 2004. He finished his Radiology Residency in İzmir Bozyaka Training and Research Hospital, Department of Radiology in 2010. He has published about 15 papers related to Radiology in reputed journals. He is interested in Interventional Radiology.

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