Interesting images

Contralateral parotideal lymph node metastasis detected by PET/CT in a female patient with locally advanced breast cancer

Metástasis del ganglio parotídeo contralateral detectado por PET/TC en una paciente con cáncer de mama localmente avanzado

Y. Demir a,∗, E. Surucu b, M.G. Durak c, P. Balci d, S. Saydam e, R. Bekis f

a Department of Nuclear Medicine, Izzet Baysal Government Hospital, Bolu, Turkey
b Department of Nuclear medicine, Van Yüzüncüyıl University, School of Medicine, Van, Turkey
c Department of Pathology, Dokuz Eylül University, School of Medicine, Izmir, Turkey
d Department of Radiology, Dokuz Eylül University, School of Medicine, Izmir, Turkey
e Department of General Surgery, Dokuz Eylül University, School of Medicine, Izmir, Turkey
f Department of Nuclear Medicine, Dokuz Eylül University, School of Medicine, Izmir, Turkey

A R T I C L E   I N F O

Article history:
Received 24 August 2012
Accepted 10 November 2012

Introduction

A 50-year-old female was admitted to the hospital with a swelling in her right breast. Mammography demonstrated a 4.5 cm × 3 cm × 2.5 cm sized mass suspicious for malignancy with a lobulated contour which contained cluster of pleomorphic calcifications (BI-RADS 5) in the upper-outer quadrant and a 8 cm × 5 mm cystic lesion both in the right breast. In addition to this finding US determined another well shaped 5 mm hypoechoic lesion in the lower-inner quadrant of the right breast and

![Fig. 1. PET MIP. (A) FDG-avid carcinoma of the right breast (SUVmax = 12) (arrow head). High FDG uptake in the right axilla corresponding with some enlarged lymph nodes (arrow). Additionally, two LNs (red arrow; SUVmax = 4.5–7.1) were detected in the left parotid gland region (contralateral to the primary tumor site) (B and D: axial CT slices; C and E: axial PET/CT fusion images). Moderately increased accumulation of FDG in the supraclavicular region bilaterally attributed to brown fat tissue.](image-url)
two lymph nodes (LNs) with a long axis diameter of 8–15 mm in the right axilla. Subsequent MRI of the right breast showed multilobulated mass with a size of 5 cm × 2.5 cm in the upperouter quadrant (BI-RADS 5) and a well-shaped 5 mm lesion in the lowerinner quadrant (BI-RADS 3). After the histopathologic evaluation of upperouter quadrant lesion via tru-cut biopsy, the patient was diagnosed with invasive breast carcinoma. PET/CT revealed high FDG uptake (SUV = 12) in the right breast lesion and showed two hypermetabolic LNs in the right axilla with a SUV 4.7 and 5.9, respectively. Additionally, two LNs adjacent to the left parotid gland (contralateral side of the primary lesion) were detected (SUV 4.5 and 7.1) (Fig. 1). Besides PET/CT showed moderately increased accumulation of FDG in the supraclavicular region bilaterally which was attributed to brown fat tissue. US demonstrated two LNs at the inferior and superior part of parotideal gland and carcinoma metastasis to the parotideal lymph node was confirmed by fine needle aspiration biopsy. After neoadjuvant chemotherapy, FDG uptake of primary tumor and parotideal LNs were decreased; no axillary LNs uptake were seen on follow-up scan (Fig. 2).

Initial staging of the patients with locally advanced breast cancer (LABC) is crucial for the selection of appropriate treatment and management strategies. Metastasis of the breast cancer was seen primarily in the lymphatic system. Furthermore, extra axillary LN involvement and distant metastasis can be seen in locally advanced breast cancer patients. It has been reported that metastatic extra axillary LN can be found in the infraclavicular, supraclavicular, retropectoral, intrapectoral, interpectoral, internal mammary, mediastinal and contralateral axillary areas. Although metastasis of breast cancer to parotideal gland has been reported, parotideal LN metastasis was not showed. Patients who had parotideal metastasis complained with facial nerve palsy, swelling and pain. Our patient did not have any complains about her parotid gland region.

FDG PET/CT is an important imaging modality to eliminate the extra-axillary LN involvement in patient with large tumors or stage II–III breast cancer without any evidence of disease spread to the lymph nodes. As far as we know, this image describes parotideal LN metastasis in locally advanced breast cancer without any complains. Based on this case, we underline the importance of unusual LN metastasis in the patients with breast cancer. We suggest that, in addition to conventional imaging methods, PET/CT should also be considered in the preoperative evaluation of locally advanced breast cancer.

References