



PET/CT Findings of a Patient with Striped Muscle Metastasis of Invasive Breast Carcinoma

İnvaziv Meme Karsinomu Tanılı Hastanın PET/BT Görüntülemesinde Saptanan Çizgili Kas Metastazı

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Abstract

A 37-year-old female with a history of invasive breast carcinoma was referred to our department for an ¹⁸F-fluorodeoxyglucose (¹⁸F-FDG) positron emission tomography/computed tomography whole-body scan. An intense ¹⁸F-FDG uptake in striped muscles anterior to the left thigh region was noted. Excisional biopsy outcome from the left vastus medialis muscle was found to be consistent with striped muscle metastasis from breast carcinoma.

Keywords: Breast carcinoma, ¹⁸F-FDG PET/CT, striped muscle, metastasis

Öz

İnvaziv meme karsinomu tanılı 37 yaşında kadın hasta tüm vücut ¹⁸F-florodeoksiglukoz (¹⁸F-FDG) pozitron emisyon tomografi/bilgisayarlı tomografi görüntülemesi için birimimize başvurdu. Sol uyluk bölgesi anteriorundaki çizgili kaslarda yoğun artmış ¹⁸F-FDG tutulumları saptandı. Bu bölgeden yapılan (sol vastus medialis kası) eksizyonel biyopsi sonucu meme karsinomu çizgili kas metastazı ile uyumlu olarak raporlandı.

Anahtar kelimeler: Meme karsinomu, ¹⁸F-FDG PET/BT, çizgili kas, metastaz

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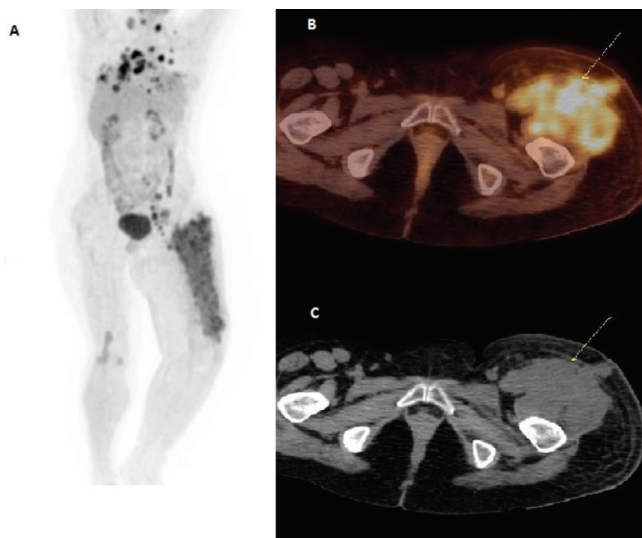


Figure 1. A 37-year-old female with invasive breast carcinoma was referred to our positron emission tomography/computed tomography (PET/CT) department for re-staging. Her medical history revealed a radical mastectomy for breast carcinoma in the left breast 2 years ago. The patient received chemotherapy and radiotherapy 1 year ago. The ^{18}F -fluorine-fluorodeoxyglucose (^{18}F -FDG) PET/CT scanning was performed 60 minutes after IV injection of 395 MBq ^{18}F -FDG, on an integrated 16 slice PET/CT, scanning from the base of the skull to the knee. The obtained images from ^{18}F -FDG PET/CT maximum intensity projection (A), axial fusion (B), and axial CT (C) showed tracer accumulation in the striped muscles anterior to the left thigh region (maximum standard uptake value, 7.1; mean density, 8 Hounsfield units) (B, C yellow arrows). Excisional biopsy indicated striped muscle metastasis from breast carcinoma in the left vastus medialis muscle. Furthermore, radiation therapy application was started.

Although muscle tissue makes up approximately half of the total body weight, metastatic extension to the skeletal muscle is an exceptional event in neoplasms, with an incidence of 0.8%-1.5% in autopsy series (1,2,3,4). Muscular contractile actions, lactic acid accumulations, and protease inhibitors affect the blood flow and inhibit the growth of tumor cells in the muscles. This potentially explains the rarity of this phenomenon (5). However, it has been reported that the incidence of metastasis is increased in trauma patients. In trauma, skeletal muscle function is impaired and focal hyperemia occurs, resulting in decreased ability of the muscle to eliminate lactic acid and increased possibility of metastatic cells to settle in the muscle. Therefore, patients should be assessed for trauma and hematoma and muscle rupture, and infection should be considered in differential diagnosis (6). Despite these protective mechanisms, soft tissue (striated muscle) metastasis secondary to lung cancer, kidney cancer, and colon cancer were reported in the literature (7). Intramuscular metastases can be seen in advanced and poorly differentiated tumors and worsen prognosis (8).

Ethics

Informed Consent: Consent was obtained patient.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: R.U.E., Design: R.U.E., Data Collection or Processing: R.U.E., Analysis or Interpretation: R.U.E., Literature Search: Ö.E., Writing: R.U.E., Ö.E.

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