



¹⁸F-FDG PET/MRI Image of Skin Metastasis of Ovarian Cancer

Over Kanserinde Deri Metastazının ¹⁸F-FDG PET/MR Görüntüsü

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Abstract

Ovarian cancer is one of the deadliest tumors among women. It mostly metastasizes to the liver, pleura, lungs, and bones. We present a sixty-six-year-old patient with skin lesions. The patient who underwent biopsy due to skin lesions was diagnosed with ovarian cancer. ¹⁸F-fluorodeoxyglucose (FDG) positron emission tomography/magnetic resonance imaging (PET/MRI) performed for metastasis search shows widespread skin involvement, especially in the lower abdomen and legs. Skin involvement in ovarian cancer can be rarely seen, and in this article we would like to share ¹⁸F-FDG PET/MRI of skin involvement in ovarian cancer.

Keywords: ¹⁸F-FDG PET, PET/MRI, ovarian cancer, skin metastasis

Öz

Over kanseri, kadınlar arasında en ölümcül tümörlerden biridir. Çoğunlukla karaciğer, plevra, akciğer ve kemiklere metastaz yapar. Altmış altı yaşında kadın hasta deri lezyonlarıyla başvuruyor. Deri lezyonları sebebiyle biyopsi yapılan hasta over kanseri tanısı alıyor. Metastaz arama amacıyla yapılan ¹⁸F-florodeoksiglukoz pozitron emisyon tomografisi/manyetik rezonans (PET/MR) özellikler alt batin ve bacaklarda yaygın deri tutulumları izleniyor. Over kanserinde deri tutulumları nadir olarak görülebilmektedir, bu yazıda over kanserinin deri tutulumunun ¹⁸F-FDG PET/MR görüntülerini paylaşmak istiyoruz.

Anahtar kelimeler: ¹⁸F-FDG PET, PET/MR, over kanseri, deri metastazi

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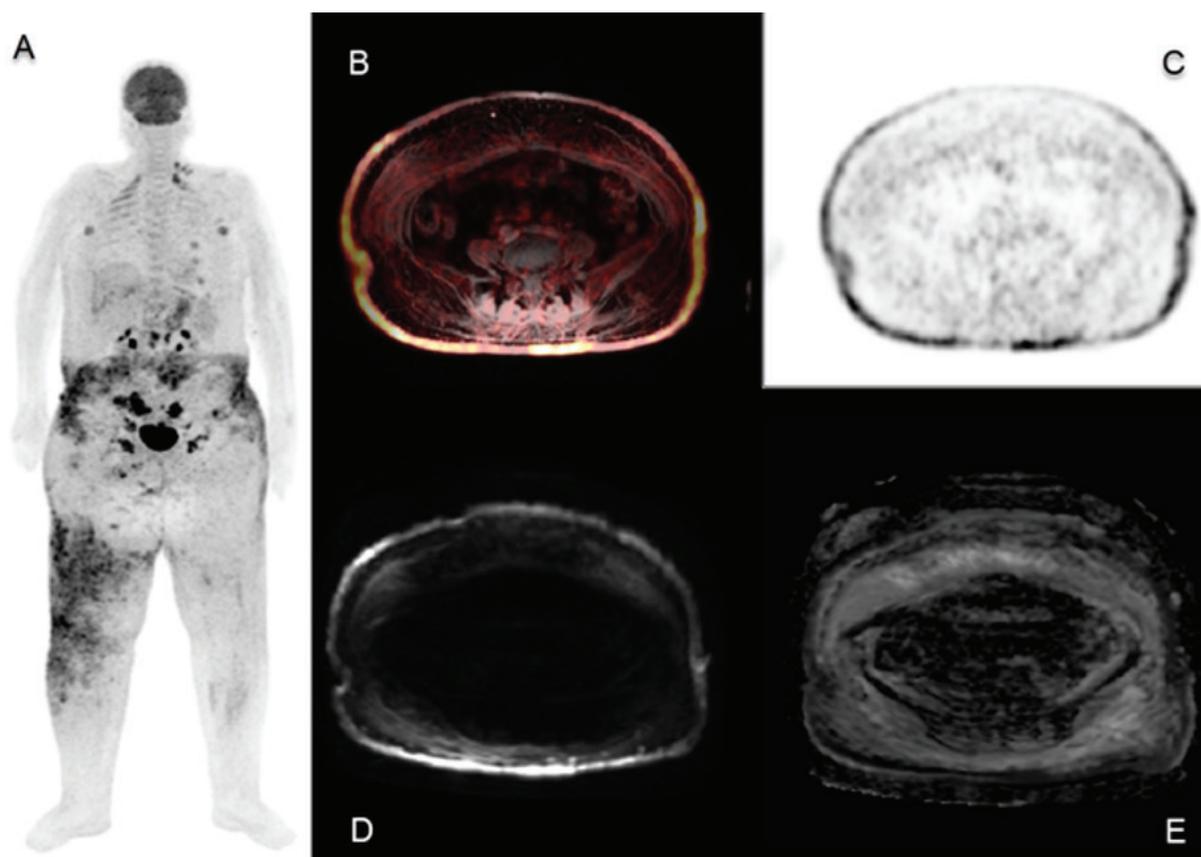


Figure 1. Ovarian cancer is responsible for most deaths among female reproductive system cancers and is also the fifth most common cause of death among all cancers in women according to the American Cancer Society. The most common distant metastatic sites are the liver, pleura, lung, bone, and brain. Skin metastasis is a rare feature of metastatic ovarian cancer. The prognosis of patients with skin metastasis varies greatly due to their heterogeneous sites and different times of appearance (1). Sixty six-year-old female developed skin lesions, mostly below abdominopelvic level. Biopsies of the lesions resulted in high-grade serous ovarian cancer. The patient underwent ¹⁸F-fluorodeoxyglucose (FDG) positron emission tomography/magnetic resonance imaging (PET/MRI) for staging. Bilateral metabolically highly active adnexal lesions, primary tumor site, bilateral metabolically highly active inguinal and axillary lymphadenopathies, and pleural effusion are revealed. Skin lesions extending from the abdominopelvic level to lower extremities showed diffuse-increased ¹⁸F-FDG uptake. All of these findings were consistent with the biopsy resulting in metastatic ovarian cancer. PET/MRI has a high soft-tissue resolution which makes it useful for tumors like ovarian cancer (2). ¹⁸F-FDG PET/computed tomography (CT) has nearly 90% sensitivity and specificity for ovarian cancer (3). Maximum standardized uptake value has a positive correlation with Ki-67 index (4). ¹⁸F-FDG PET/MRI combines both positive aspects of ¹⁸F-FDG PET and MRI (5). PET differentiates metabolic characteristics of the lesions while MRI, using multiple sequences, provides high soft-tissue resolution and anatomical detail according to different signal intensities. MRI has been reported to have 95% sensitivity and 82% specificity (6), ¹⁸F-FDG PET/MRI is more accurate than contrast-enhanced CT and pelvic dynamic MRI according to Tsuyoshi et al (7). PET/MRI has a lower radiation exposure level which adds another benefit to its use compared with PET/CT (8). As a result, PET/MRI can play an important role in soft tissue gynecological tumors such as ovarian cancer. Maximum intensity projection image (A) shows diffuse skin uptake of ¹⁸F-FDG, particularly seen in lower abdomen and right leg; ovaries and multiple lymph nodes also show increased ¹⁸F-FDG uptake. Selected axial fused T1 weighted MRI PET-MRI fusion slice (B) and selected axial PET-slice (C) show diffuse skin uptake due to tumor invasion; diffusion-weighted imaging b= 1000 MRI image (D) and apparent diffusion coefficient MRI image (E) show diffusion restriction, which is consistent with malignant invasion.

Ethics

Informed Consent: Obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: A.K, S.A, R.L.U.B, M.S.S., K.S., Concept: A.K., S.A., Design: A.K., S.A., R.L.U.B., Data

Collection or Processing: A.K., S.A., R.L.U.B., Analysis or Interpretation: A.K., S.A., Literature Search: A.K., Writing: A.K., S.A.

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