



Meningioma Mimicking Bone Metastasis in Breast Cancer

Meme Kanserinde Kemik Metastazını Taklit Eden Menenjiom

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Abstract

Meningiomas constitute 37% of primary central nervous system tumors and are more common in women. Also may occur with other primary malignancies, which can cause confusion with the metastasis in whole body bone scan (WBBS) imaging. A 58-year-old woman diagnosed with breast cancer was referred to the WBBS for the investigation of possible bone metastases. In the planar images, radiotracer uptake at multiple sites was detected on the anterior side of the skull base and the posterior side of the vertex of the cranium. Single photon emission computed tomography/computed tomography was performed for anatomical localization of possible metastatic lesions, and it revealed that detected accumulations of radiotracer did not belong to the bone metastases; uptakes were located at the cerebral parenchyma and the lesions in the falx cerebri. Patient history explained that she had been diagnosed with meningioma five years ago, which mimicked bone metastases in this study.

Keywords: Meningioma, bone scan, breast cancer

Öz

Menenjiomlar, primer santral sinir sistemi tümörlerinin %37'sini oluşturur ve kadınlarda daha sık görülür. Ayrıca, diğer primer malignitelere eşlik edebildiğinden tüm vücut kemik taraması (TVKT) görüntülerinde, metastaz ile karışıklığa neden olabilir. Elli sekiz yaşında meme kanseri tanısı konulan kadın hasta, olası kemik metastazlarının araştırılması amacıyla TVKT için nükleer tıp departmanına sevk edildi. Planar görüntülerde, kafa tabanının anteriorunda ve verteks bölgesinin posteriorunda multiple radyotraser akümülyasyonları tespit edildi. Olası metastatik lezyonların anatomik lokalizasyonu için tek foton emisyon tomografisi/bilgisayarlı tomografi çalışması yapıldı ve saptanan radyotraser tutulumlarının kemik metastazlarına ait olmadığı, tutulumların serebral parankime ve lezyonların falks serebriye ait olduğu ortaya çıktı. Hastanın veri geçmişi, bu çalışmadaki kemik metastazlarını taklit eden bulguların, beş yıl önce konmuş olan menenjiom tanısı ile uyumlu olduğunu gösterdi.

Anahtar kelimeler: Menenjiom, kemik sintigrafisi, meme kanseri

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Figure 1. Anterior planar image (A) and lateral planar image (B) of a 58-year-old woman with a diagnosis of invasive ductal carcinoma presented with a complaint of shoulder pain during follow-up. Focal radiotracer uptake was observed anterior to the skull base and sagittal sinus areas.

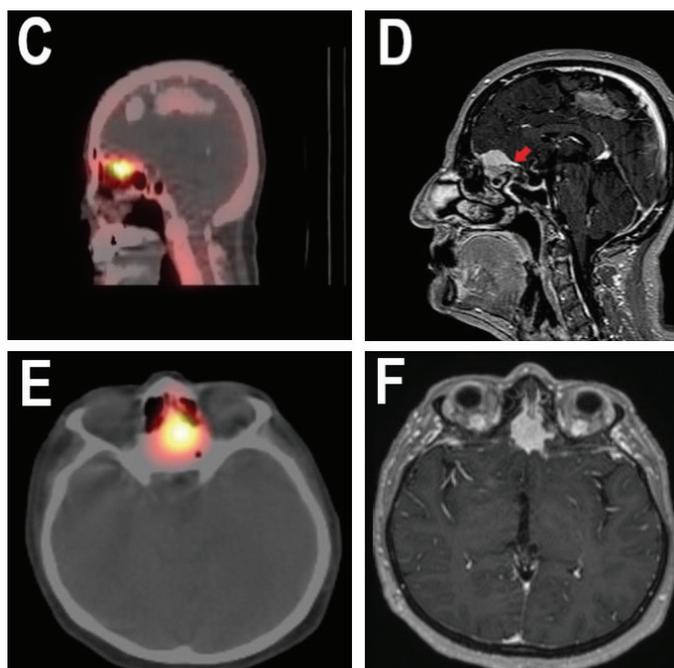


Figure 2. In the single photon emission computed tomography/computed tomography (SPECT/CT) images, increased radiotracer uptake was seen in the inferior frontal parenchymal tissue and the cerebral falx in the interhemispheric area in both sagittal and transaxial images (C, E).

In the T1-weighted sagittal and transaxial magnetic resonance imaging (D, F), a well-defined homogeneously avidly enhancing extraaxial mass at the planum sphenoidale with pathognomonic "dural tail sign" was demonstrated (red arrow).

Meningiomas are 37% of primary central nervous system tumors and are more common in women (1). Meningiomas can calcify in different ways (2). Meningiomas contains progesterone receptors similar to breast cancers (3). Clinicians can refer patients to whole-body bone scintigraphy in the follow-up of breast cancer, and it is recommended for high-risk patients (4). There are studies in the literature reported that patients with breast cancer have a higher risk of developing meningioma compared to the general population. Lopez-Rivera et al. (5) showed that the incidence of meningioma was 26% higher than the normal population in their cohort study of 5,000 breast cancer patients. In this case, we would like to present that bone metastasis can be interpreted with false positivity. Radiotracer can be obtained not only in meningioma but also in diseases such as cerebral infarction, brain abscess cerebritis, and chronic subdural hematoma in the cranial area (6,7). In WBBS studies, radiotracer uptake in unusual parts of the body history of disease other than metastasis should be questioned. Also, if available, SPECT/CT may be useful in confirming the findings.

Ethics

Informed Consent: Written informed consent was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: T.Ö., Concept: O.Ş., G.B.B., T.Ö., Design: O.Ş., G.B.B., T.Ö., Data Collection or Processing: O.Ş., T.Ö., Analysis or interpretation: G.B.B., T.Ö., Literature Search: O.Ş., T.Ö., Writing: O.Ş., G.B.B., T.Ö.

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