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Interesting images

Solitary adrenal metastasis of breast cancer on [^{68}Ga]Ga-DOTA-TATE PET/CT

Metástasis suprarrenal solitaria de cáncer de mama en PET/TC con [^{68}Ga]Ga-DOTA-TATE

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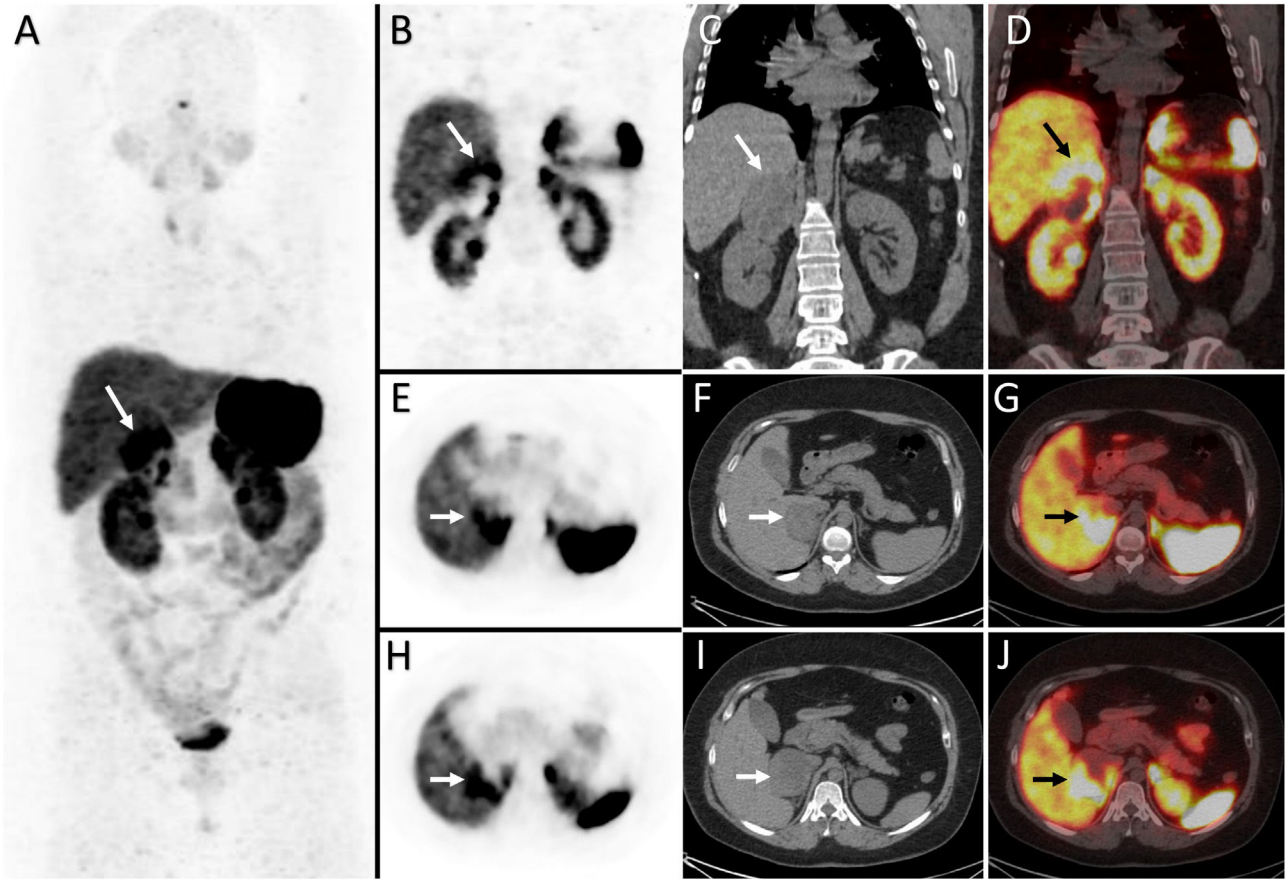

Figure 1. Maximal intensity projection (MIP) images (A) depicted an enlarged right adrenal gland with intense peripheral uptake of [^{68}Ga]Ga-DOTA-TATE and central ametabolism [SUVmax right adrenal gland (arrow) = 24.53 g/mL - SUVmax left adrenal gland = 18.23 g/mL, Hounsfield Unit of the adrenal lesion = 44 (HU)], between the inferior pole of the liver and the superior pole of the right kidney (arrow). PET, CT, and fused PET/CT images in coronal (B, C, and D, respectively) and axial slices (E, F, and G, respectively), as well as an additional axial slice (H, I, and J, respectively), demonstrated a tracer-avid mass on the right adrenal gland.

A 38-year-old woman with a history of lumpectomy for invasive ductal carcinoma 8 years ago was admitted to the hospital for routine follow-up. Ultrasonography showed no lesion in the bilateral breast tissue. The magnetic resonance imaging examination, conducted with the suspicion of liver metastasis due to mildly elevated alanine aminotransferase (ALT) and aspartate aminotransferase (AST) levels, revealed the presence of a 6×6.5 cm mass in the right adrenal gland. Since no other lesions were seen on other screening imaging modalities and no abnormalities were found on tumor markers, the patient was referred to [^{68}Ga]Ga-DOTA-TATE positron emission tomography/computed tomography (PET/CT) for suspicion of primary adrenal malignancy. [^{68}Ga]Ga-DOTA-TATE PET/CT demonstrated a tracer-avid mass on the right adrenal gland (Fig. 1). Subsequently, an adrenalectomy was per-

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formed and histopathology confirmed the diagnosis of metastatic invasive ductal carcinoma. The most frequent primary neoplasms that metastasize to the adrenal gland include melanoma, lung cancer, breast cancer, colorectal cancer, and renal cell carcinoma. Adrenal gland metastasis typically results from systemic metastasis, especially in the advanced stage of primary tumours and the main route of metastasis is through the bloodstream. Breast cancer is the most common type of malignant tumor in women, and the predominant histologic type of breast cancer is invasive ductal carcinoma (IDC). IDC accounts for approximately 70–85% of all invasive breast cancers. IDC typically metastasizes to the lungs, liver, bones, and brain, but adrenal metastasis is rare. Adrenal metastases from breast cancer are typically observed in patients with invasive lobular carcinoma (ILC) and frequently associated with simultaneous multiorgan metastases. Isolated adrenal metastasis originating from ILC is rare, and it is even rarer when it arises from IDC. Adrenal metastasis of breast cancer is often associated with a worse prognosis and a shorter 5-year survival rate. Compared to patients with synchronous metastasis, patients with solitary adrenal metastasis usually have better prognosis.[1] While only two cases of solitary adrenal metastases of breast cancer on [^{18}F]fludeoxyglucose PET/CT have been reported in the literature, there have been no documented cases of solitary adrenal metastases of breast cancer on [^{68}Ga]Ga-DOTA-TATE PET/CT.[2] A significant number of case reports have demonstrated that primary breast cancer may exhibit a notable degree of avidity for [^{68}Ga]Ga-DOTA-peptides. Approximately 50% of breast tumours express somatostatin receptors, and [^{68}Ga]Ga-DOTA-peptide PET/CT examinations can incidentally detect breast cancer.[3] This case report presents a unique instance of a solitary adrenal metastasis of breast cancer demonstrating [^{68}Ga]Ga-DOTA-TATE uptake, emphasizing the possible use of [^{68}Ga]Ga-DOTA-TATE PET/CT in breast cancer imaging.

Conflicts of interest

None.

References

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