Case Report

Anterior abdominal wall cutaneous metastases detected by F-18 fluorodeoxyglucose-positron emission tomography/computed tomography in a patient with breast carcinoma

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Abstract

Cutaneous metastases from internal malignancies are rare with a reported incidence between 0.7% and 10%. It may be the first symptom in 7% of the patients with cancer. We report a case with distant solitary skin metastases in anterior abdominal skin from breast cancer detected on F-fluorodeoxyglucose-positron emission tomography/computed tomography imaging.

Key words: Breast cancer, F-18 fluorodeoxyglucose-positron emission tomography/computed tomography, skin metastases, staging

INTRODUCTION

Cutaneous metastases from internal malignancies are rare with a reported incidence between 0.7% and 10%. Although the most common carcinoma to metastasize to the skin is malignant melanoma, seconded by breast carcinoma, breast cancer is very common in females and cutaneous metastasis of breast cancer is the commonly encountered metastasis in clinical practice. We report a case of distant solitary skin metastases over the anterior abdominal skin from breast cancer, detected on an F-18 fluorodeoxyglucose-positron emission tomography/computed tomography (F-18 FDG-PET/CT) scan. In addition to the detection of skin metastases, F-18 FDG-PET/CT was also useful in staging the disease.

CASE REPORT

A 45-year-old woman diagnosed to have left-sided breast carcinoma was subjected to F-18 FDG-PET/CT [Figure 1a] scan to stage the disease. Intense uptake is noted in the soft tissue lesion in the left breast and axillary nodes along with FDG avid sclerotic lesion was also noted in the sternum [Figure 1b]. There was a FDG avid hypodense liver lesion noted in segment I [Figure 1c]. Intense FDG avid skin thickening [standardized uptake value ([SUV] =15] was noted over right lower abdominal wall [Figure 1d]. Hence, in addition to demonstration of primary breast, bone and liver metastasis, F-18 FDG-PET/CT also revealed unsuspected skin lesion. Clinical examination revealed a skin lesion in the right abdominal wall. Subsequently, the patient underwent neoadjuvant chemotherapy.

DISCUSSION

Differential diagnosis of the skin lesions and subcutaneous nodules would include cutaneous lymphoma, melanoma, neurofibromatosis, and metastases from other internal malignancies. The breast, stomach, lung, uterus, large intestine, and kidneys are the most frequent internal organs to produce cutaneous metastases. Cancers that have the highest propensity to metastasize to the skin include melanoma (45% of cutaneous metastasis cases), breast (30%), nasal sinuses (20%), larynx (16%), and oral cavity (12%). Because breast cancer is so common, cutaneous metastasis of breast cancer is the most frequently encountered type of cutaneous metastasis in most clinical
practices.[3] Cutaneous metastases can occur either by lymphatic or hematogenic spread and is most commonly seen in the head and neck regions and trunk.[4] The recognition of cutaneous metastases often dramatically alters therapeutic plans, especially when metastases signify persistence of cancer originally thought to be cured. Some tumors metastasize with predilection to specific areas. Recognition of these patterns can be useful in directing the search for an underlying tumor.

F-18 FDG–PET/CT has been widely used in staging breast cancer and shown to be better than conventional imaging modalities and also changes management in significant number of patients.[3] However, distant skin metastases from breast cancer detected by FDG-PET/CT have been rarely reported in the literature.[3][5]

Though cutaneous metastases may be the presenting symptom it usually represents advanced disease and poor prognosis. FDG PET-CT can potentially be used as a one-stop-shopping imaging modality in patients with cutaneous/subcutaneous metastases from FDG avid primary malignancies. FDG PET-CT may also find a role in evaluating the response of these lesions to treatment. In our case, in addition to demonstration of FDG uptake in skin metastases, PET/CT also revealed liver and sternal metastases, thereby defining true extent of the disease. Our case also highlights the fact that F-FDG avid nodules in skin in a case of breast carcinoma should always bring up suspicion of skin metastases.

REFERENCES