A rare primary pleural squamous cell carcinoma demonstrated on ^{18}F-FDG PET/CT

Abstract

We presented a rare case of primary pleural squamous cell carcinoma (SCC) on fluorine-18-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT). It manifested as multiple pleural nodules with moderate ^{18}F-FDG uptake and massive pleural effusion on PET/CT. The pathology result supported the primary squamous cell carcinoma. Our case highlighted the SCC should be included as differential diagnosis of the multiple pleural lesions and other differential diagnosis consisted of mesothelioma, solitary fibrous tumor, metastases.

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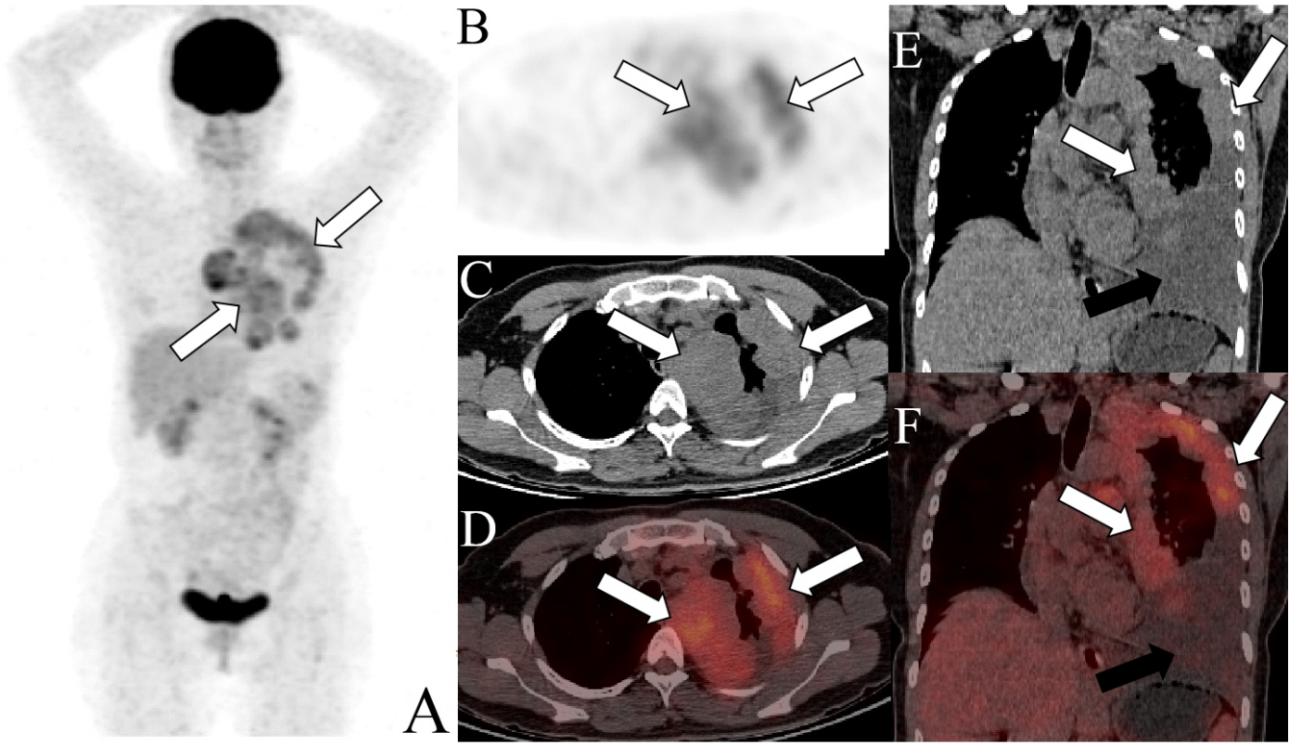

Figure 1. A 50 year old woman came to our hospital complaining of cough for 3 months without fever and dyspnea. The chest CT revealed that multiple nodules were found in the left costal pleural and mediastinal pleural and the massive pleural effusion was present. Pleural biopsy result showed the squamous cell carcinoma. In order to define the scope of the lesions and exclude the metastatic lesions, the ^{18}F-FDG PET/CT was performed. The result found multiple nodules were located in the left pleural with the standardized uptake value maximum (SUVmax) of 4.5. (white arrows in A: MIP image ,B: axial PET , C: CT image, D: PET/CT fusion image, E: coronal CT, F: coronal PET/CT fusion image) and massive pleural effusion was also present in the left thoracic cavity(black arrow in E: coronal CT, F: coronal PET/CT fusion image). No other lesions were found on the ^{18}F-FDG PET/CT scan. Immunohistochemistry was positive for CK, P63, P40 and E-C. The pathology result eventually supports the primary pleural squamous cell carcinoma.

The majority of pleural tumors are metastases [1]. Primary pleural tumors are very rare and the differential diagnosis includes localized or diffuse mesotheliomas and solitary fibrous tumor [1-2]. Primary pleural squamous cell carcinoma (SCC) is especially rare. Due to its extreme rarity, the etiology of primary SCC is unclear. For primary SCC, it is very important to differentiate mesothelioma. Both of them show the pleural thickening or multiple nodes but benign mesothelioma usually have good prognosis [3]. The histopathological evaluation should be mandatory in case of pleural thickening. Our case demonstrated that primary SCC should be included as differential diagnosis of the multiple pleural lesions and PET/CT can help clarify the extent of the lesions.

Bibliography

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