Adenoid Cystic Carcinoma of Trachea: Findings on ^{18}F FDG Positron Emission Tomography-Computed Tomography

Abstract

Adenoid cystic carcinoma (ACC) of the trachea is the second most common tumor of trachea after squamous cell carcinomas. It arises from the submucosal layer and predominantly has a rapid locoregional spread. We describe the ^{18}F FDG positron emission tomography-computed tomography findings of a 51-year-old woman, a biopsy-proven case of ACC of trachea who underwent the scan for initial staging.

Keywords: *Adenoid cystic carcinoma, FDG positron emission tomography-computed tomography, trachea*

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A 51-year old woman presented with chief complaints of nonproductive cough with dyspnea for the past 6 months to pulmonology outpatient department. On suspicion of bronchogenic carcinoma, ^{18}F FDG positron emission tomography-computed tomography (PET-CT) was advised to look for sites of metabolically active disease. Maximum intensity projection images of the scan showed focal area of FDG uptake in the mediastinal region [Figure 1a, solid blue arrow]. Figure 1b [solid white arrow] represents the axial chest CT image showing an extraluminal lesion measuring approximately 1.4 cm × 1.4 cm arising

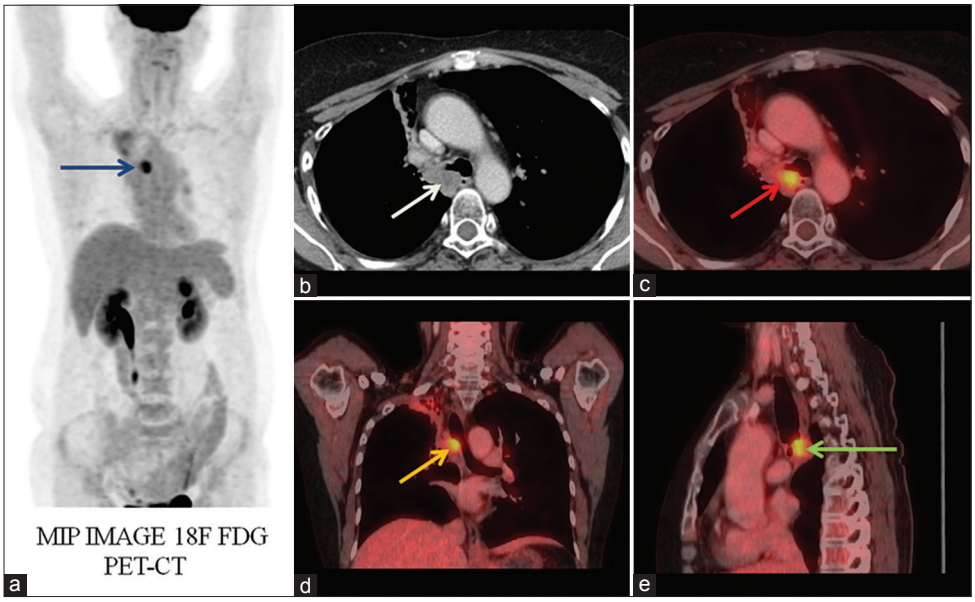

Figure 1: (a) Maximum intensity projection images of the ^{18}F FDG positron emission tomography-computed tomography scan showing focal area of FDG uptake in the mediastinal region (solid blue arrow). (b) Axial chest computed tomographic image showing a lesion 1.4 cm × 1.4 cm arising from trachea (solid white arrow). (c) Tracheal lesion show increased FDG uptake in the fused transaxial positron emission tomography-computed tomography images (solid red arrow). (d) Fused coronal ^{18}F FDG positron emission tomography-computed tomography image showing increased FDG uptake in the tracheal lesion (solid yellow arrow). (e) Fused sagittal ^{18}F FDG positron emission tomography-computed tomography image showing increased FDG uptake intratracheal lesion (solid green arrow)

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from the trachea just before its bifurcation and also involving the carina. The lesion showed increased FDG uptake in the fused transaxial PET-CT images [Figure 1c, solid red arrow]. Figure 1d [solid yellow arrow] and e [solid green arrow] represents coronal and sagittal fused ^{18}F FDG PET-CT images respectively, showing increased FDG uptake in the tracheal lesion. No distant metastasis was recorded on PET-CT scan and the patient underwent surgery and histopathology was diagnostic of primary adenoid cystic carcinoma (ACC) of the trachea.

Tracheal ACC originates from the submucosal glands of the airway are often misdiagnosed as asthma or bronchitis and accounts for about 10%–20% of the malignant tracheal tumor.[1,2] Due to rarity of this neoplasm in general population, there are not many published reports highlighting the utility of PET-CT in this type of tumor. Although some reports suggest that there is no special tumor site predilection,[3] Huo *et al*. in their series found lower one third of trachea to be one of the favored sites.[4] Metastases to cervical lymph nodes are a rare event; ACC spreads through a hematogenous route with distant metastases, especially to lungs, brain, bone and liver.[5,6] In our case, we had a localized disease with no nodal or visceral metastases; however, keeping in view its tendency to metastasize initially as well as late up to 15 years after the initial diagnosis,[7] the authors advocate use of ^{18}F FDG PET-CT in workup algorithm of ACCs, especially for restaging purpose.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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