

A Rare Case of Thyroid Cartilage Metastases Detected on 18F-Fluorodeoxyglucose Positron Emission Tomography/Computed Tomography

Abstract

The thyroid cartilage metastatic involvement is an extremely rare entity. It can be asymptomatic at the earlier stage and can become symptomatic later on. Involvement of thyroid cartilage is frequent in melanoma and renal and rarely reported in an advanced stage of carcinoma prostate, breast, and lung. These cases were usually reported on positron emission tomography/computed tomography (PET/CT) as can often easily be missed on computed tomography scan alone. We present a case report of metastatic involvement of thyroid cartilage in squamous cell carcinoma of buccal mucosa detected on the whole-body 18F-fluorodeoxyglucose PET/CT.

Keywords: Carcinoma buccal mucosa, cartilage metastasis, fluorodeoxyglucose positron emission tomography/computed tomography, laryngeal metastasis, thyroid cartilage

A 44-year-old man, a known case of squamous cell carcinoma of the left buccal mucosa, postsegmental mandibulectomy, flap reconstruction, postchemotherapy, and radiotherapy presented in our nuclear medicine department for 18F-fluorodeoxyglucose positron emission tomography/computed tomography (PET/CT) for recurrence of disease approximately 6 months later. The scan revealed metabolically active cavitory and soft-tissue nodules in bilateral lungs, liver lesions, left adrenal and bilateral renal lesions, mediastinal and abdominal lymph nodes, left internal oblique muscle deposit, and multiple lytic skeletal lesions along with erosive lesion of the left lamina of the thyroid cartilage, suggestive of metastases [Figure 1]. Laryngeal metastasis can be asymptomatic earlier but can become symptomatic later on. The thyroid cartilage metastatic involvement is an extremely rare entity. These cases are usually reported on PET/CT as they can be easily missed on computed tomography scan. Carcinoma buccal mucosa usually metastasizes into regional lymph nodes and less frequently into bone.^[1] Contiguous spread to the thyroid cartilage is more common than noncontiguous/hematogenous

spread. Noncontiguous metastasis into the cartilage is extremely rare due to a lack of vasculature. The literature review has shown the case of cartilaginous involvement in melanoma,^[2] advanced stage carcinoma prostate,^[2,3] breast,^[4] renal,^[5] and rarely in the lung.^[6] Our case is extremely rare with carcinoma buccal mucosa having multiple extraosseous and osseous metastasis including thyroid cartilage detected on PET/CT. Functional imaging by PET/CT can help in early detection and prognostication in such cases.

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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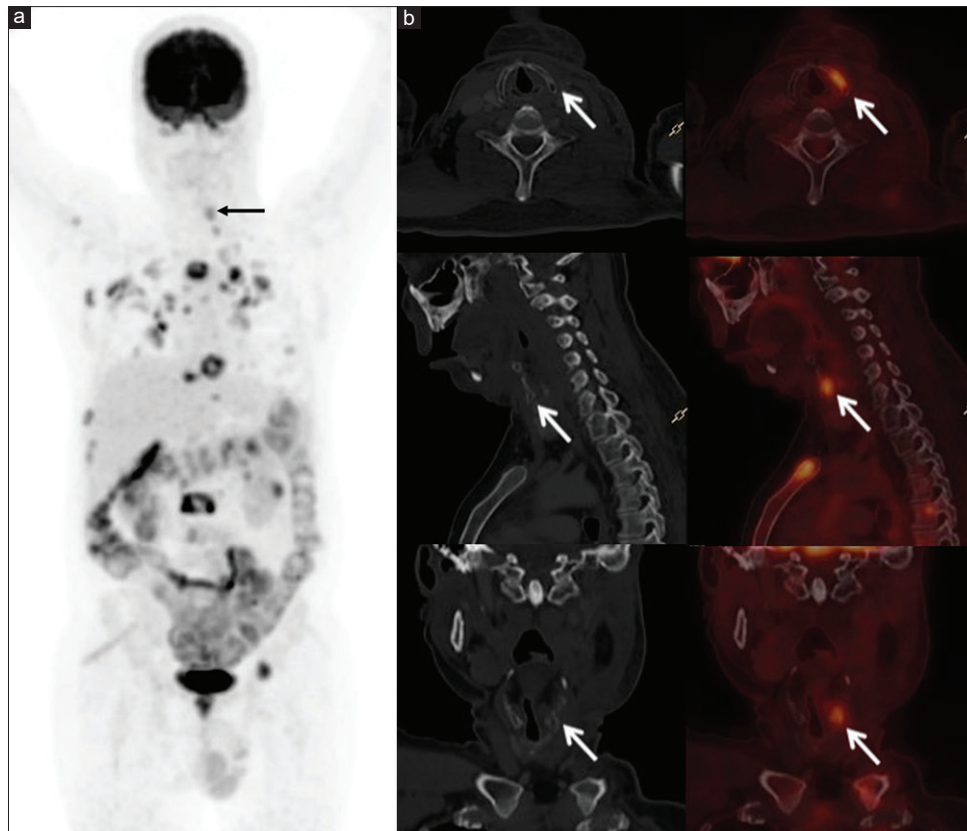


Figure 1: (a) Maximum intensity image of F18-FDG PET, apart from the physiological FDG uptake there is abnormal uptake noted in the neck region (shown by arrow), bilateral lung field, and abdominal region. (b) Erosion of the left lamina of the thyroid cartilage on CT with FDG avidity in corresponding PET/CT in axial, sagittal, and coronal projections, respectively. PET/CT: Positron emission tomography/computed tomography, FDG: Fluorodeoxyglucose

Conflicts of interest

There are no conflicts of interest.

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