

Omicron Variant of COVID-19: Imaging Pattern on F-18 Fluorodeoxyglucose Positron Emission Tomography/Computed Tomography

Abstract

We report a case of omicron infection in a biopsy-proven case of carcinoma breast sent for staging F-18 fluorodeoxyglucose (FDG) positron emission tomography (PET) during the omicron COVID wave. FDG PET/computed tomography (CT) revealed increased FDG uptake in nasopharyngeal, oropharynx, and tonsillar regions and bilateral cervical lymph nodes along with uptake in primary carcinoma and locoregional lymph nodes. Based on the clinical history and specific pattern of FDG PET/CT findings (as suggested by SNMMI Taskforce), COVID history and reverse transcription polymerase chain reaction positivity was elicited.

Keywords: Carcinoma breast, COVID-19, fluorodeoxyglucose, omicron, positron emission tomography/computed tomography

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SNMMI task force has recently issued a statement on the possible effect of omicron on F 18 fluorodeoxyglucose (FDG) positron emission tomography/computed tomography (PET/CT) imaging pattern,^[1] which differs from the lung findings noted in common COVID 19 (delta) infection.^[2-4] This involves

a prominent, symmetric FDG uptake throughout the nasopharynx, oropharynx, and tonsils with or without associated cervical lymphadenopathy. This pattern is probably a result of the presently dominant omicron strain, which, in comparison to previous variants, is found at reduced

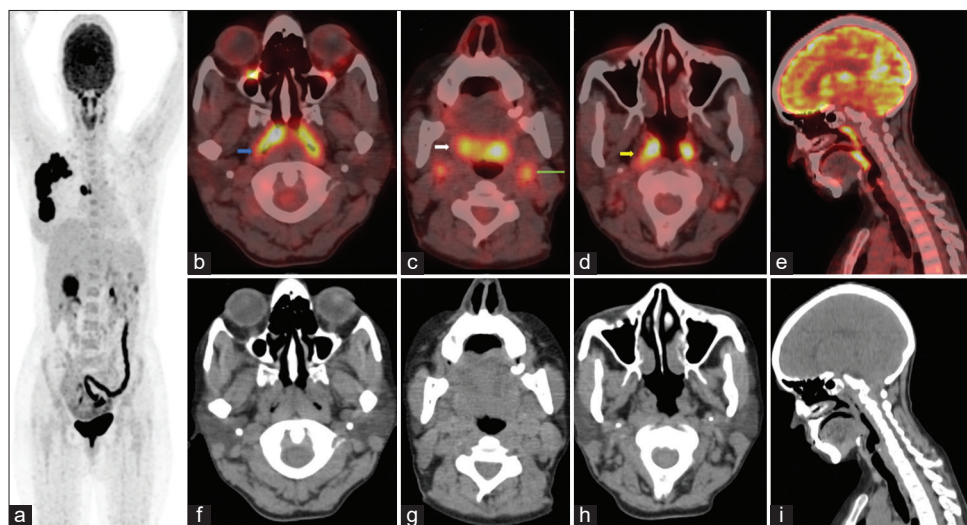


Figure 1: A 36-year-old female with a history of right breast carcinoma was referred for 18F-FDG PET/CT scan for staging and maximum intensity projection image (a) showed FDG uptake in nasopharyngeal and oropharyngeal region, bilateral cervical lymph nodes, right breast, right axillary, and right internal mammary lymph nodes with focal uptake in the gallbladder regions in a case of suspected second primary malignancy. The fused PET/CT and CT images in trans axial (b-d and f-h) and sagittal (e and i) sections demonstrated prominent FDG uptake in nasopharyngeal (blue arrow), oropharyngeal (yellow arrow), and tonsillar (white arrow) regions with increased FDG uptake in bilateral cervical lymph nodes (green arrow). FDG: Fluorodeoxyglucose, PET/CT: Positron emission tomography/computed tomography

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levels in lung tissue and prefers aerodigestive route for infection and multiplication.^[5,6] The task force, therefore, recommends that these findings should be taken into consideration at the time of FDG PET/CT reporting and the possibility of omicron variant COVID 19 infection should be considered [Figure 1]. Further, this should not be misread as lymphoma or lymphoid hyperplasia. This case highlights this pattern with confirmed omicron infection in a case of primary carcinoma breast with a possible second primary in gallbladder undergoing evaluation during the present wave.

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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