

Incidentally Detected COVID-19 Case and FDG-PET-CT Findings in a Patient with Newly Diagnosed Breast Cancer

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Cite this study: Ozcan, P. P., Koc, Z. P., Yavan, G. & Gumus, A. (2022). Incidentally Detected COVID-19 Case and FDG-PET-CT Findings in a Patient with Newly Diagnosed Breast Cancer, Molecular Oncologic Imaging, 2(1), 19-21

Keywords

FDG

PET-CT

COVID-19

Research Article

Received: 11.01.2022

Accepted: 24.02.2022

Published: 15.03.2022

Abstract

Imaging plays an important role in the evaluation of cancer patients for management of most appropriate treatment options. FDG PET-CT imaging in various cancer patients has been widely used for staging, restaging, and therapy response for various cancer patients. We hereby, report incidentally detected COVID-19 disease FDG PET-CT findings of a newly diagnosed breast cancer patient and follow-up imaging findings.

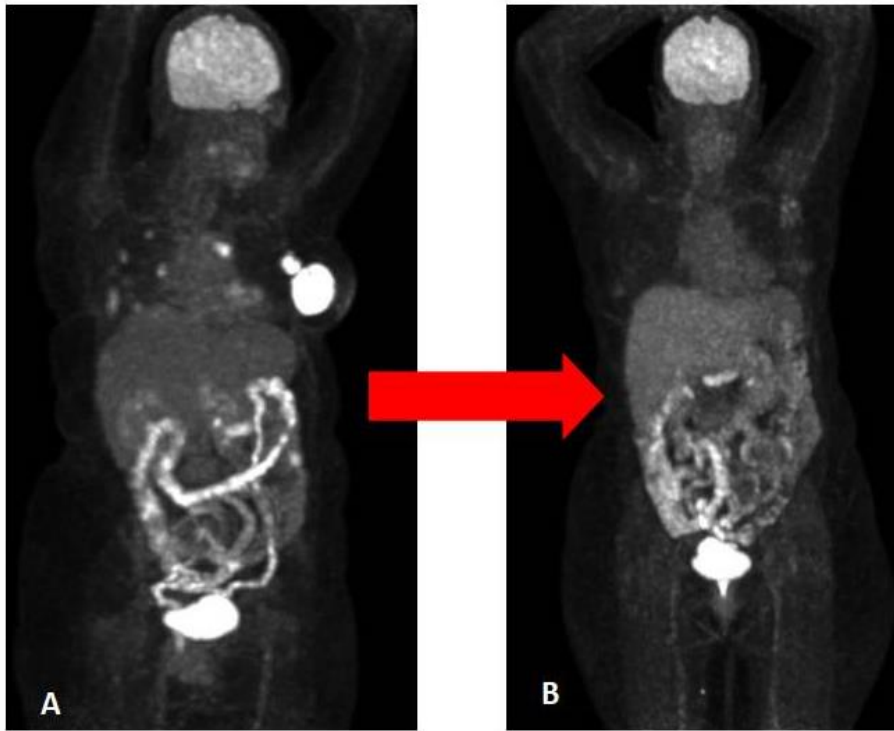


Figure 1. An 56 year old woman with breast cancer underwent FDG PET-CT imaging for initial staging evaluation after 15 mCi (555 MBq) FDG injection. MIP (Maximum Intensity Images) and axial fusion images demonstrate left breast upper quadrant located hypermetabolic mass with spicular contour, 5 cm in diameter,

consistent with primary malignancy (SUVmax: 34) with proven diagnosis of invasive carcinoma. Axillary and pectoral metastatic lymph nodes (SUVmax:23) more than 10 in number with the largest of which is 2.5 cm in diameter were detected. In addition, areas of hypermetabolic reticulonodular densities and ground glass opacity increase in both lung parenchyma areas especially in basal sections were seen (SUVmax: 14) and were interpreted in line with the viral COVID-19 pandemic findings. Treatments planned for the breast were postponed during the isolation period.

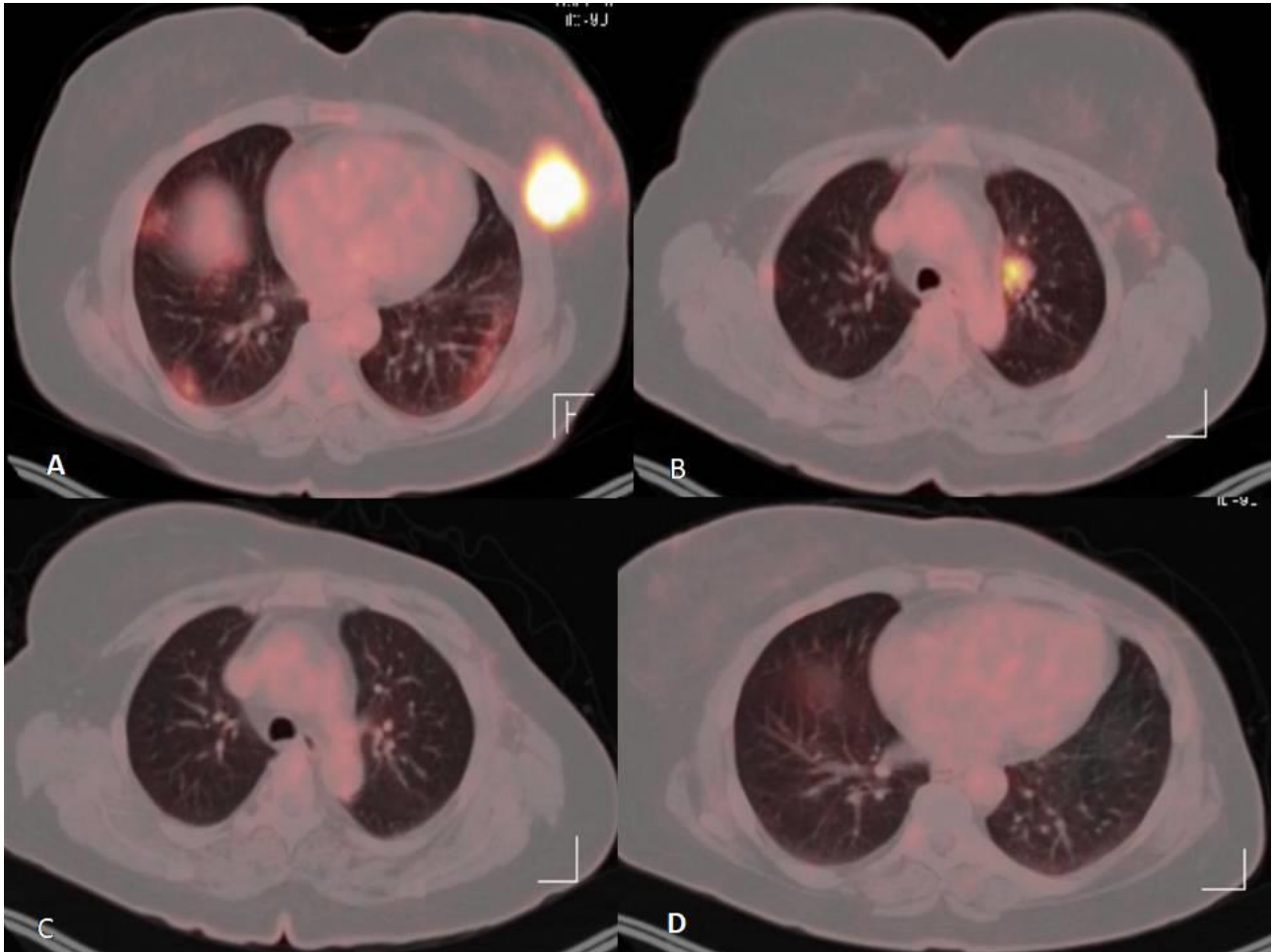


Figure 2. Axial fusion PET-CT images in top row (A, B) shows primary breast malignancy, axillary and pectoral metastatic lymph nodes and active viral pandemic lung findings. In the lower row (C, D), PET-CT scan findings presented in the same patient after breast operation and treatment of lung pneumonia. She had breast operation and chemotherapy respectively 3 months and 2 weeks before the exam. In this study, it was noted that the COVID-19 viral pandemic lung findings detected in the first PET-CT demonstrated in A and B, was completely disappeared in the current PET-CT (C, D). There was 4 months between two PET-CT scans. In the literature, case reports and very small case series describing incidental findings of COVID-19 in patients performed FDG PET-CT imaging for especially oncological patients (1-11). To date, according to evidence-based data, FDG PET-CT cannot substitute or integrate high-resolution CT to diagnose suspicious COVID-19 or for disease monitoring, but it can be useful to incidental detection of suspicious COVID-19 infection in especially oncological patients and influences therapy plan period.

Conflict of Interest

No conflict of interest was declared by the authors.

Author Contributions

Concept: P.P.O.; Design: P.P.O., G.Y.; Supervision: P.P.O., Z.P.K.; Funding: P.P.O.; Materials: P.P.O., Z.P.K.; Data Collection and/or Processing: P.P.O.; Analysis and/or Interpretation: P.P.O., Z.P.K.; Literature Review: P.P.O.; Writer: P.P.O., G.Y.

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