

Incidental COVID-19 on PET/CT imaging

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A 58-year-old woman with diabetes and morbid obesity (body mass index 44.3 kg/m²) presented to an outpatient facility for routine staging for Hodgkins lymphoma using positron emission tomography–computed tomography (PET/CT) staging. The patient was prescreened outside the clinic doors, and she denied having any symptoms of coronavirus disease 2019 (COVID-19), was afebrile and had no history of travel or contact with anyone with COVID-19. She was injected with fluorodeoxyglucose F 18 (¹⁸F-FDG) radiotracer, after which she rested in the supine position in the injection room to allow radiotracer biodistribution, during which the patient was first overheard to have occasional coughing spells.

The PET/CT imaging confirmed the biopsy-proven, stage 2 right pelvic adenopathy (Figure 1A, white arrow), with only mild ¹⁸F-FDG activity (SUVmax 2.9). Imaging also showed that the patient had multifocal bilateral peripheral lung opacities (Figures 1C and 1D), with moderate ¹⁸F-FDG activity (SUVmax 4.5) in the left lower lobe (Figure 1C, white arrow). We did not find any pleural effusions or ¹⁸F-FDG-avid mediastinal adenopathy. One week before presentation, staging diagnostic CT of her chest was clear (Figure 1B).

We immediately notified the referring clinician, and the patient was sent for same-day testing for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) with instructions to self-isolate. Two days later, a positive result for reverse transcriptase–polymerase chain reaction (RT-PCR) for SARS-CoV-2 was reported; concurrently, the patient had acquired a runny nose, more frequent coughing and fever (38°C).

Many outpatients have presented for diagnostic imaging after passing prescreening for COVID-19 and have unexpected findings on subsequent chest radiography and CT,¹ typically multifocal ground-glass opacities or more dense infiltrates.² On PET/CT, pneumonia associated with COVID-19 is ¹⁸F-FDG avid.^{3–5} Although some researchers have suggested that this modality may be a prognostic indicator, evidence is limited to case reports.³

Our patient was admitted to hospital for observation. Her symptoms abated over the course of a week, and she was discharged. Her planned course of pelvic radiation was delayed because of restrictions implemented during the COVID-19 pandemic.

References

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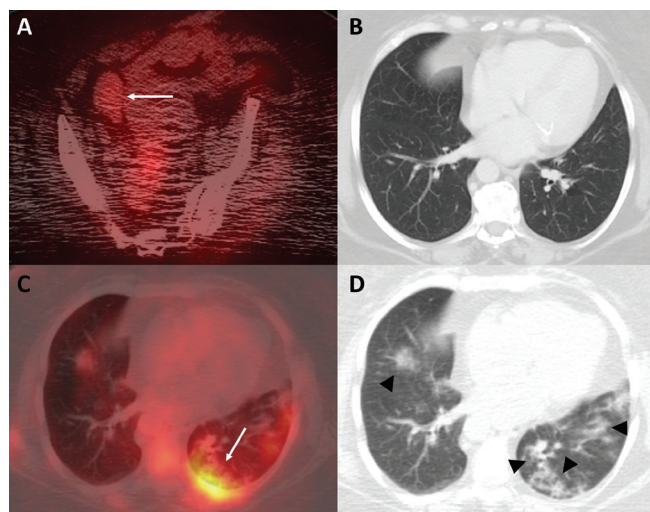


Figure 1: (A) Axial fused positron emission tomography–computed tomography (PET/CT) scan showing uptake of fluorodeoxyglucose F 18 (¹⁸F-FDG) of a lymphoma in the right pelvis (white arrow) of a 58-year-old woman. (B) Axial CT scan of the chest showing clear lung bases on examination performed 1 week before presentation to the clinic. (C) Axial fused PET/CT scan showing multifocal bilateral infiltrates with ¹⁸F-FDG activity most notably in the left lower lobe (white arrow) and (D) corresponding CT scan portion from the PET/CT showing multifocal bilateral infiltrates (black arrowheads).

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Competing interests: Leonard Grinblat and Mansoor Husain are minority shareholders in the privately owned facility (MyHealth Centre, Toronto) where this case originated. No other competing interests were declared.

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The authors have obtained patient consent.

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