

Tracheitis Diagnosed With ^{68}Ga -PSMA PET/CT in a Patient With COVID-19

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Abstract: A 57-year-old man with newly diagnosed with prostate cancer was admitted to our department for ^{68}Ga -prostate-specific membrane antigen PET/CT imaging. The patient, who was asymptomatic at the time of imaging, had increased diffuse ^{68}Ga -prostate-specific membrane antigen uptake in the trachea on PET/CT. No ground-glass density suggestive of pneumonia in both lungs was observed. The patient, whose symptoms developed 2 days after PET/CT imaging, was diagnosed with coronavirus disease 2019 by real-time polymerase chain reaction.

Key Words: COVID-19, PET/CT, PSMA, tracheitis

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REFERENCES

1. Bois F, Noiroi C, Dietemann S, et al. [^{68}Ga]Ga-PSMA-11 in prostate cancer: a comprehensive review. *Am J Nucl Med Mol Imaging*. 2020;10:349–374.
2. Christensen MT, Klingenberg S, Gormsen LC, et al. Avid ^{68}Ga -PSMA uptake in periappendicular abscess. *Clin Nucl Med*. 2020;45:929–930.
3. Shetty D, Patel D, Le K, et al. Pitfalls in gallium-68 PSMA PET/CT interpretation—a pictorial review. *Tomography*. 2018;4:182–193.
4. Scarlattei M, Baldari G, Silva M, et al. Unknown SARS-CoV-2 pneumonia detected by PET/CT in patients with cancer. *Tumori*. 2020;106:325–332.
5. Morón S, González E, Rojas J. ^{68}Ga -PSMA PET/CT with incidental finding of COVID-19 in an asymptomatic patient. *Clin Nucl Med*. 2020;45:1032–1033.
6. Stasiak CES, Cardoso FR, de Almeida SA, et al. Incidental finding of COVID-19 infection after [^{68}Ga]Ga-PSMA-11 PET/CT imaging in a patient with prostate cancer. *Eur J Nucl Med Mol Imaging*. 2021;48:653–654.
7. Fang H, Younis MH, Cai W, et al. New wine in old bottles: ^{68}Ga -PSMA-11 PET/CT reveals COVID-19 in patients with prostate cancer. *Am J Nucl Med Mol Imaging*. 2021;11:332–336.
8. Farolfi A, Telo S, Castellucci P, et al. Lung uptake detected by ^{68}Ga -PSMA-11 PET/CT in prostate cancer patients with SARS-CoV-2: a case series. *Am J Nucl Med Mol Imaging*. 2021;11:300–306.

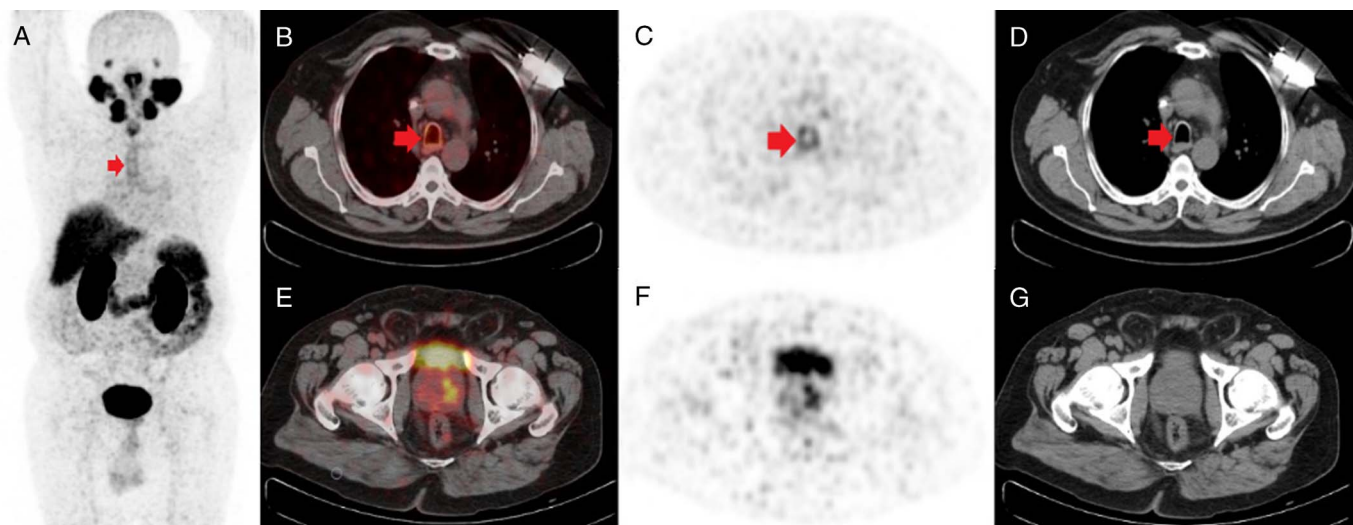


FIGURE 1. A 57-year-old man, newly diagnosed with prostate carcinoma with a Gleason score 3 + 4, was admitted to our department for ^{68}Ga -prostate-specific membrane antigen (PSMA) PET/CT imaging for staging purpose. Total prostate-specific antigen value at the time of PET/CT imaging was 10.1 ng/dL. Diffusely increased ^{68}Ga -PSMA uptake in the trachea and bilateral main bronchi was observed (SUV_{max} , 3.6) (as shown by the red arrows; **A**, MIP images; **B**, Fusion PET/CT transaxial image; **C**, PET transaxial image; **D**, CT transaxial image). Increased ^{68}Ga -PSMA expression of primary malignancy was observed in the prostate gland (SUV_{max} , 5.7) (**E**, fusion PET/CT transaxial image; **F**, PET transaxial image; **G**, CT transaxial image) with PET/CT; no metastatic lesion of prostate cancer was visualized. There were no ground-glass opacities in either lung. Although the patient did not have any symptoms just before imaging, 2 days after PET/CT, the patient described weakness, fever, sore throat, pain with swallowing, yellow purulent sputum, and joint and bone pain. The patient was evaluated in terms of possible respiratory tract infections; real-time polymerase chain reaction test was performed, and coronavirus disease 2019 (COVID-19) was detected. Although ^{68}Ga -PSMA is used as an ideal molecular target for both diagnosis and treatment of prostate cancer, PSMA expression is not specific to prostate cells and can be seen in benign processes such as inflammation or infection.¹⁻³ Cases of COVID-19 pneumonia have been reported incidentally in prostate cancer patients undergoing ^{68}Ga -PSMA PET/CT imaging.⁴⁻⁸ However, to our knowledge, there was no report of isolated tracheal PSMA involvement in patients with COVID-19 in the literature before. Tracheal ^{68}Ga -PSMA uptake seen on PET/CT in asymptomatic patients may raise suspicion for possible COVID-19 disease.