

Rare Endobronchial Inflammatory Myofibroblastic Tumor in Pediatric Patient Detected on PET/CT Imaging

Pelin Ozcan Kara, MD,* Zehra Pinar Koc, MD,* Elvan Caglar Citak, MD,† Ali Nayci, MD,‡
Gokhan Berktug Bahadir, MD,‡ and Taylan Kara, MD§

Abstract: Inflammatory myofibroblastic tumor (IMT) can be seen in all age groups, although it is more common in children and adolescents. We report the FDG PET/CT findings in an 8-year-old boy with endobronchial IMT. Endobronchial IMT is more commonly seen in young adults.

Key Words: FDG, inflammatory myofibroblastic tumor, PET/CT

(*Clin Nucl Med* 2017;42: e407–e408)

Received for publication March 29, 2017; revision accepted May 8, 2017.
From the Departments of *Nuclear Medicine, †Pediatric Oncology, ‡Pediatric Surgery, and §Radiology, Faculty of Medicine, Mersin University Ciftlikkoy Kampüsü, Mersin, Turkey.

Conflicts of interest and sources of funding: none declared.

Correspondence to: Pelin Ozcan Kara, MD, Department of Nuclear Medicine, Faculty of Medicine, Mersin University Ciftlikkoy Kampüsü, 33343 Yenisehir, Mersin, Turkey. E-mail: ppelinozcan@gmail.com.

Copyright © 2017 Wolters Kluwer Health, Inc. All rights reserved.

ISSN: 0363-9762/17/4209–e407

DOI: 10.1097/RLU.0000000000001737

REFERENCES

1. Pavithran K, Manoj P, Vidhyadharan G, et al. Inflammatory myofibroblastic tumor of the lung: unusual imaging findings. *World J Nucl Med*. 2013;12:126–128.
2. Surabhi VR, Chua S, Patel RP, et al. Inflammatory myofibroblastic tumors: current update. *Radiol Clin North Am*. 2016;54:553–563.
3. Zhang C, Li CJ, Zong WK, et al. One case of inflammatory myofibroblastic tumor—a case report. *J Cancer Res Ther*. 2015;11:C131–C133.
4. Atsumi Y, Murakawa M, Yamaoku K, et al. A case of primary splenic inflammatory myofibroblastic tumor. *Gan To Kagaku Ryoho*. 2016;43:2268–2270.
5. Dhull VS, Passah A, Rana N, et al. Paraneoplastic pemphigus as a first sign of metastatic retroperitoneal inflammatory myofibroblastic tumor: (18)F-FDG PET/CT findings. *Rev Esp Med Nucl Imagen Mol*. 2016;35:260–262.
6. Modesto J, Gardeazabal I, Santos AM, et al. (18)F-FDG PET discovered an elusive cervical inflammatory pseudotumor associated with a papillary thyroid cancer. *Endocrinol Nutr*. 2014;61:338–340.
7. Chong A, Ha JM, Hong R, et al. Inflammatory myofibroblastic tumor mimicking gastric gastrointestinal stromal tumor on ¹⁸F-FDG PET/CT. *Clin Nucl Med*. 2014;39:725–727.
8. Yoon SH, Lee S, Jo KS, et al. Inflammatory pseudotumor in the mediastinum: imaging with (18)F-fluorodeoxyglucose PET/CT. *Korean J Radiol*. 2013;14:673–676.

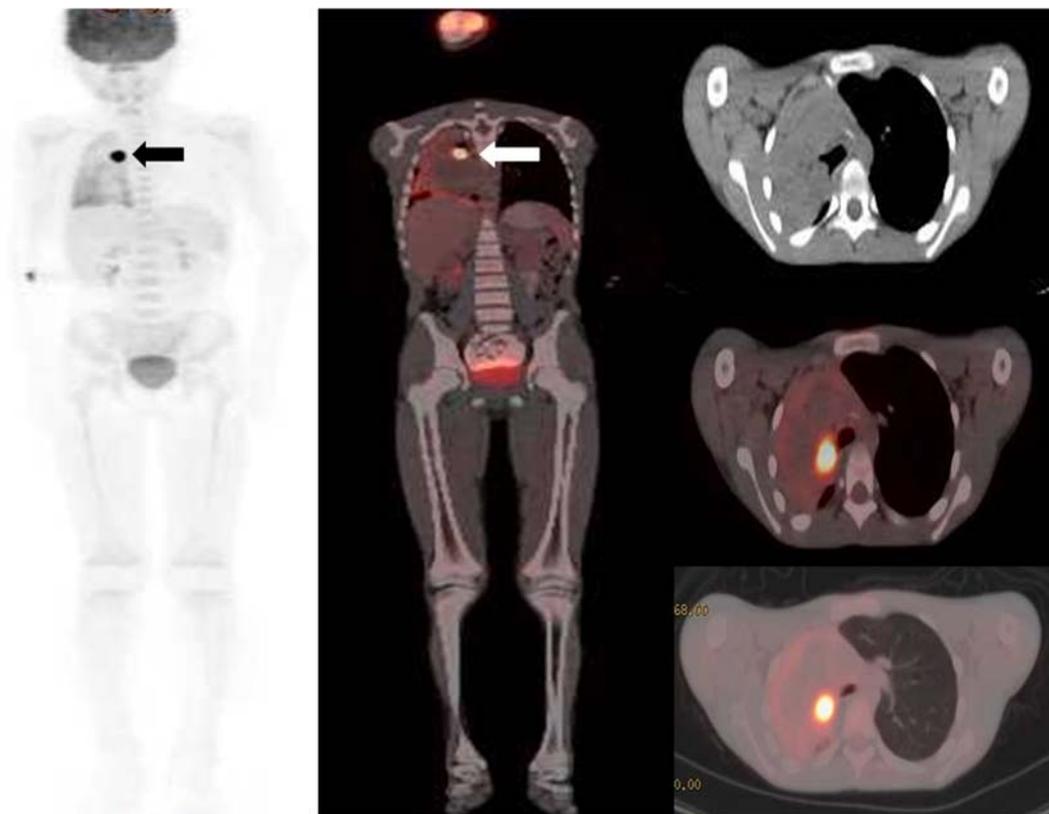


FIGURE 1. An 8-year-old boy with endobronchial suspicious lesion on chest CT examination with progressive cough and recurrent pneumonia underwent PET/CT imaging for metabolic characterization. Following a 4-hour fasting, while the patient had a blood glucose level of 88 mg/dL, 215 MBq (5.82 mCi) ^{18}F -FDG was given intravenously. After 60 minutes, images were taken from the calvarium to the soles of the feet in 3D mode to be 2.5 minutes per bed. PET/CT imaging demonstrated that the heart and mediastinal vascular structures were displaced to the right. Ventilation in the right lung was observed to decrease in great proportion. An approximately 20 × 17-mm endobronchial hypermetabolic mass (SUVmax 17.52) was detected in the right main bronchus. Postobstructive atelectasis was observed in the right lung. No additional pathologic focus was detected on whole-body imaging. The patient was diagnosed as having inflammatory myofibroblastic tumor with transbronchial biopsy. Inflammatory myofibroblastic tumor is a group of soft tissue tumors that can be seen in any anatomic region from the central nervous system to the gastrointestinal tract. It is also called plasma cell granuloma, inflammatory pseudotumor, xanthogranuloma, inflammatory fibrosarcoma, and pseudosarcomatous myofibroblastic proliferation. Although lung and abdomen are the most frequently affected areas, endobronchial lesion presentation is a rare case compared with parenchymal lesion. Inflammatory myofibroblastic tumor is mostly seen in the lungs; it comprises only 0.04% to 1% of all lung tumors.^{1–3} In this case, the endobronchial lesion on PET/CT showed markedly increased metabolic activity. For this reason, endobronchial malignancies such as carcinoid tumors were included in the differential diagnosis, and malignancy could not be ruled out. Although PET/CT imaging in inflammatory myofibroblastic tumor was reported in literature,^{4–8} in this case report, it was noticed that endobronchial inflammatory myofibroblastic tumor lesion, which is rarely seen in pediatric patient, showed markedly increased FDG uptake, and PET/CT imaging findings were presented.