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

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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

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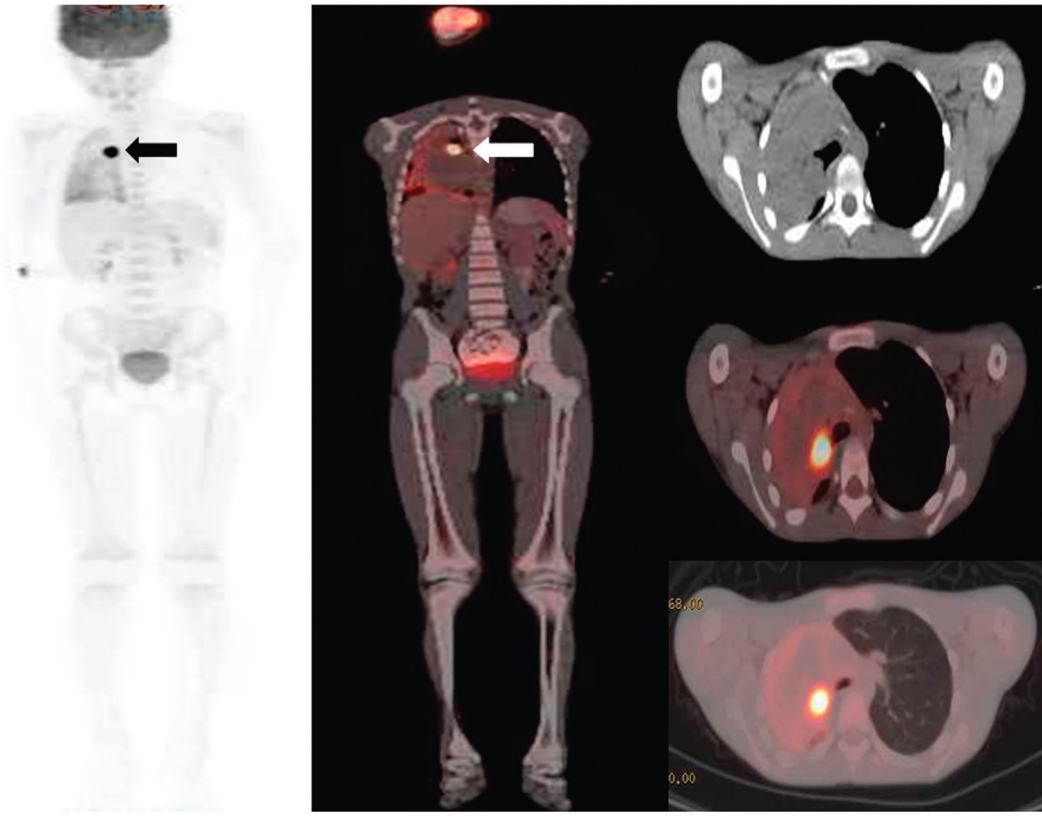

FIGURE 1. An 8-year-old boy with endobronchial suspicious lesion on chest CT examination with progressive cough and recurrent pneumonia underwent PET/CT imaging for metabolic characterization. Following a 4-hour fasting, while the patient had a blood glucose level of 88 mg/dL, 215 MBq (5.82 mCi) ^{18}F-FDG 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.

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