Clinical Image

Metastatic Pulmonary Calcification in a Patient Examined Using 18f-FDG PET/CT

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CLINICAL IMAGE

A 41-year-old man affected by chronic renal failure and a long history of hemodialysis was admitted to our hospital for an 18F-fluorodeoxyglucose positron emission tomography (18F-FDG-PET) evaluation 3 months after undergoing surgery and chemotherapy for testicular seminoma. A computed tomography (CT) scan revealed diffuse hazy ground glass opacities in the central zones of the bilateral lungs. The 18F-FDG PET/CT scan also corroborated this finding as 18F-FDG accumulated in these lesions.

Figure 1 Metastatic calcifications are calcium depositions in normal lung tissues with high levels of serum calcium and phosphate [1]. The common causes are primary or secondary hyperparathyroidism, chronic renal failure, and multiple myeloma. In the lungs, calcifications usually deposit in the interstitium of the alveolar septum, the walls of the bronchioles and pulmonary vessels, or the large airways. A majority of patients remain asymptomatic; however, occasionally, patients may experience dyspnea. High-resolution computed tomography (HRCT) can detect minimal deposits in the lung parenchyma [2,3]. In some cases, as pulmonary calcification can be misinterpreted as pneumonia or pulmonary edema on both the chest radiograph and CT scan images, bone scintigraphy with the bone-avid radiotracer 99mTc-MDP can help to distinguish equivocal cases [4,5]. This is the first report to depict metastatic pulmonary calcification on 18F-FDG-PET.

A: The chest X-ray reveals cardiomegaly indicated by chronic heart failure due to renal failure. Faint consolidations are seen in the bilateral apical lung fields. B: The chest CT scan demonstrates faint hazy ground glass opacities (GGOs) in the central area of the lung. These ground glass opacities indicate calcium deposition in the lung parenchyma. C: The FDG-PET scan reveals 18F-FDG uptake in the same area as the GGOs.
REFERENCES


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