# Cardiac involvement from adenocarcinoma of the lung at diagnosis detected by $^{18}$F-FDG-PET imaging

**To the Editor:** Cardiac involvement from lung carcinoma at diagnosis, though reported, is rarely encountered [1]. A 75-year-old male, presenting with progressive dyspnoea, had pleural effusion on chest roentgenogram, which was tapped and the fluid was positive for malignant cells. Computerized tomography (CT) thorax revealed a large heterogeneous predominantly low density mass in the region of the left posterior aspect of the heart which appeared to impress on the left ventricular chamber and suspected (but not confirmatory) a probable invasion of the left ventricle. The mass also had invaded the left lower lobe bronchus. Fluoro-18 fluor deoxyglucose positron emission tomography ($^{18}$F-FDG-PET) (Fig. 1a and 1b) showed an irregular-contoured area of increased uptake at the posterior part of left ventricle, which on likelihood represented lung carcinoma with invasion into the heart and corresponded with the area of abnormality on the chest CT. There were three additional focal areas of increased $^{18}$F-FDG uptake: one within the right upper lung peripherally, one within the posterior left lower lobe and the other focus corresponded to the precarinal lymph node observed in CT. Both visual assessment and standardized uptake value (SUVmax) analysis of the irregular focus were clearly distinctive of the malignant mass (invading the left ventricle from its posterior aspect) from that of normal left ventricular myocardial uptake. Subsequent video assisted thoracoscopy and thoracotomy during therapeutic drain placement reiterated the diagnosis. The present case demonstrates a rare situation of cardiac involvement from adenocarcinoma of the lung at diagnosis proven by $^{18}$F-FDG-PET imaging.

## Bibliography

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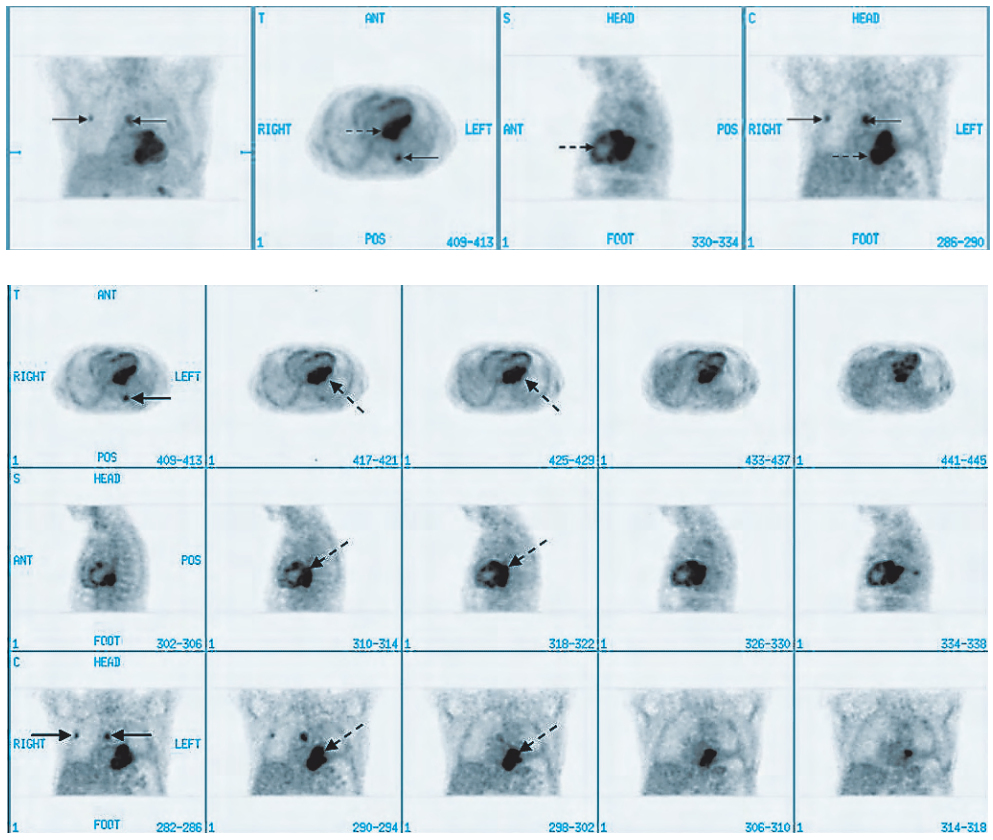


**Figure 1.** $^{18}$F-FDG-PET (MIP and coronal images) showing irregular-contoured area (broken arrow) of increased uptake at the posterior part of left ventricle which on likelihood represented lung carcinoma with invasion into the heart and corresponded with the area of abnormality on the chest CT. The SUVmax of this irregular focus and the left ventricular free wall were 8.6 and 4.6 respectively and was clearly distinctive by visual analysis. There were three additional foci (arrows) of increased $^{18}$F-FDG uptake: one within the right upper lung peripherally, one within the posterior left lower lobe and the other corresponded to the precarinal lymph node observed on CT.