

## All that glitters is not gold

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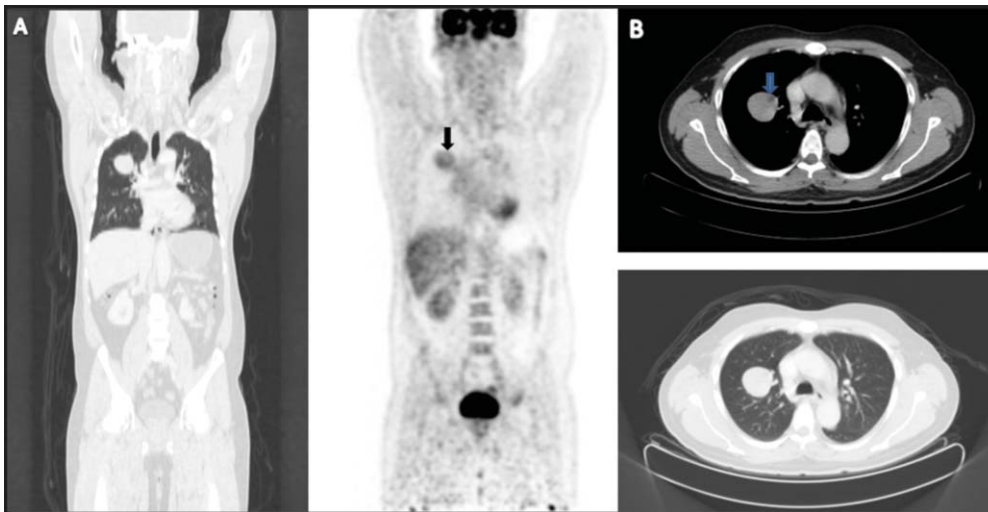
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### Abstract

Solitary pulmonary nodules (SPN) are a diagnostic dilemma with a long list of differential diagnosis which extends to include both horizons i.e., benign as well as malignant conditions. Fortunately, there are some factors which favour benign over malignant; one such factor is presence of fat.<sup>1</sup> We present here a case of a 40 years old male who underwent x-ray due to haemoptysis and cough which demonstrated a coin lesion; subsequently, PET-CT scan was requested for characterization of the lesion and concurrent staging which revealed mildly avid fat containing lesion in right lung diagnostic of pulmonary hamartoma.

**Keywords:** Pulmonary hamartoma, Coin lesion, PET-CT, Solitary pulmonary nodule.

A 50 years old male who presented with complaints of haemoptysis and cough underwent x-ray chest which revealed a well defined rounded soft tissue density nodule in right lung consistent with coin lesion. Subsequently, patient underwent 18F FDG PET-CT scan which revealed a well defined rounded mildly avid right lung lesion with preserved adjacent lung architecture measuring 3.7 x 3.7 cm showing activity of 3.0 SUV (background hepatic uptake was 3.6 SUV) (Figure-A); the lesion contained a small amount of fat within (blue arrow in Figure-B). No calcification was seen in the lesion. Considering the appearance and fat within the lesion; diagnosis of pulmonary hamartoma was made.



Pulmonary hamartoma is a benign neoplasm which usually presents in 4th and 5th decades with male predilection and male to female ratio of 2.5:1. It is composed of connective tissue, cartilage, fat, muscle and bone. Commonly, pulmonary hamartomas are asymptomatic and are found incidentally on chest x-ray as well defined rounded/lobulated peripherally located lesions containing calcification in about 5-50% and fat in about 60% of the lesions.<sup>1</sup> On rare occasions patients can present occasionally with symptoms like haemoptysis,

cough and bronchial obstruction.<sup>2</sup> The intralesional fat is difficult to evaluate on x-ray images; thin slice CT scan can be helpful in this scenario to avoid missing any small intralesional fat locule. On MRI these lesions are heterogeneous on T1 and T2 weighted images with heterogeneous post contrast enhancement due to presence of fat, calcification, fibrous tissue and cartilage. Interestingly, on FDG PET imaging hamartomas rarely show mild avidity<sup>1</sup> as seen in our case; the exact pathophysiology of this FDG uptake is still not clear but it is important to understand that benign slow growing and some well differentiated tumours can show low grade uptake due to low level glucose metabolism. The knowledge of this false positive entity on FDG PET-CT imaging is therefore important to avoid any reporting errors.

### References

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