A rare condition masquerading as lung cancer

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CASE REPORT

A 63-year-old woman was referred to the lung cancer clinic after presenting to the emergency department with a 10-day history of fever, chest tightness and breathlessness. Chest X-ray showed a left-sided retrocardiac mass, and an urgent CT scan was requested.

On review, she reported a 2-month history of intermittent cough and night sweats. She denied weight loss or haemoptysis. She was an ex-smoker. Her medical history included two episodes of pneumonia in the 1980s. There was no history of recurrent childhood infections or exposure to tuberculosis. Performance status was zero and she worked for the NHS as an operating department practitioner.

CT scan demonstrated a left lower lobe mass suspicious for malignancy. Preliminary radiological staging was T4N0M0 (figure 1).

On positron emission tomography (PET)-CT, the mass showed flurodeoxyglucose (FDG)avidity below the mediastinal blood pool. Subsequent review of the previous CT scan revealed direct arterial supply from the aorta with venous return to the azygous vein. These findings were reported as consistent with intralobar pulmonary sequestration (ILS) (figures 2 and 3).

She was referred to the local cardiothoracic centre for further management and underwent surgical resection. Histology confirmed ILS. Surgery was uncomplicated, and she is recovering well postoperatively.

DISCUSSION

Pulmonary sequestration (PS) refers to the aberrant formation of lung tissue that has no connection to the bronchial tree or pulmonary artery. PS comprises 0.15%–6.4% of congenital lung malformations[1] and is divided anatomically into two types (intralobar and extralobar), based on the relationship of the aberrant tissue to the pleura.

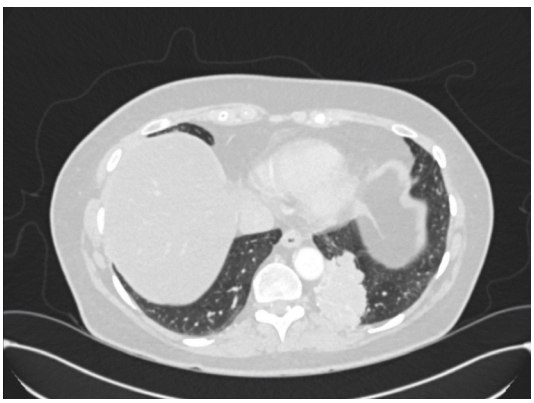

Figure 1 Axial CT image showing left lower lobe mass.

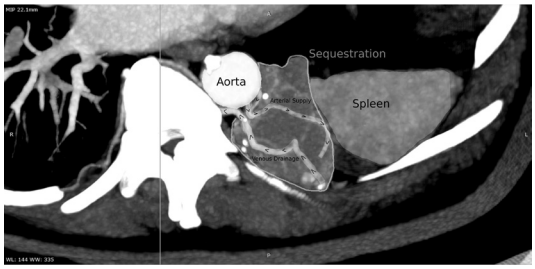

Figure 2 CT image showing left lower lobe mass with labelled segmentation of vessels.

ILS is most common, accounting for 75%–85% of cases. ILS is characterised by the absence of a separate pleural lining. Approximately two-thirds of ILS occurs in the left lower lobe.[2] Arterial supply is most commonly from the descending thoracic aorta (70%); less common sources include the abdominal aorta, coeliac plexus and intercostal arteries. Venous drainage is commonly via the pulmonary veins.[3] Patients typically present in childhood or adolescence with recurrent chest infections.

Extralobar sequestration (ELS) has a separate pleural investment. ELS usually presents in the neonatal period or early childhood with respiratory distress, congestive heart failure (due to right-to-left shunt) or spontaneous haemorrhage.

Almost 50% of ILS presents asymptomatically following an incidental finding on CT scan.[1] ILS is the predominant variant in adults but is rarely diagnosed over the age of 50 years.[1] Sixty per cent of cases are diagnosed under the age of 20 years. Clinical features include recurrent pneumonias in a localised segment of lung, back pain, cough, exertional breathlessness and haemoptysis. On CT imaging, the sequestered lung tissue may mimic

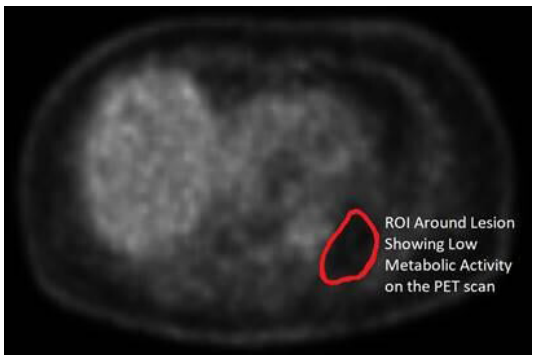

Figure 3 PET–CT scan showing mass with FDG avidity below the mediastinal pool. ROI highlighted to display the area of low metabolic activity. FDG, flurodeoxyglucose; PET, positron emission tomography; ROI, region of interest

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other pulmonary conditions including malignancy, pulmonary abscess, atelectasis or bronchiectasis.[2]

Surgical resection is the treatment modality of choice for established PS and is recommended in asymptomatic patients to avoid infection and massive haemoptysis. Endovascular embolisation and coiling are alternatives that can be considered.

CONCLUSION

This case demonstrates a rare cause of benign pulmonary mass. PS in adults is rare; however, the diagnosis should be considered in cases of recurrent pulmonary infections of identical localisation or recurrent haemoptysis. Surgical resection is recommended to avoid long-term complications, including massive haemoptysis.

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