

The Role of Imaging Methods in the Diagnosis of Pulmonary Lipoma[☆]



Papel de las pruebas de imagen en el diagnóstico del lipoma pulmonar

To the Editor,

We read with great interest the letter to the editor from Bacalja et al.¹ who reported the case of a 58-year-old man presenting with a pulmonary mass in the left upper lobe. Left upper lobectomy was performed, with a final diagnosis of intrapulmonary lipoma. The authors commented on the radiologists' difficulty in determining the nature of the lesion.

We would like to highlight the role of imaging techniques, particularly computed tomography (CT), as an important tool in the evaluation of patients with intrapulmonary lipomas. We report the case of a 52-year-old asymptomatic man who was referred after a nodule was detected on a routine chest X-ray. Physical examination and laboratory test results were normal. High-resolution CT showed a well-defined round nodule measuring 13 mm in diameter in the right lower lobe. The nodule was hypodense, with a mean density of -30 Hounsfield units (HU), compatible with a fat-containing lesion (Fig. 1). These findings indicated a benign pattern, with CT characteristics consistent with an intrapulmonary lipoma. The patient is currently being monitored in the outpatient clinic, and the nodule remains unchanged after 2 years.

Lipomas are benign mesenchymal tumors composed of adipose tissue. Although they are a common form of soft-tissue tumor, intrapulmonary lipomas are exceptionally rare.^{2,3} Most intrapulmonary lipomas are asymptomatic, with the majority being found incidentally on routine radiographs as solitary opacities, indistinguishable on plain films from malignant neoplasms.²⁻⁴ On CT, lipomas present as well-defined, round, homogeneous nodules, with fat attenuation CT values (-30 to -150 HU).²⁻⁴ The presence of intranodular fat is a reliable indicator of a benign pattern, and the diagnosis of pulmonary lipoma depends heavily on the detection of fat within the lesion.

Magnetic resonance imaging (MRI) also enables the distinction of different lesion components, including fat. On T1-weighted sequences, fat appears as areas of high signal intensity. Contrast-enhanced T1-weighted sequences with fat suppression show signal loss of the fat component. These findings are characteristic of the presence of fat.^{2,5} The main entity considered in the differential diagnosis of intrapulmonary nodules with fat is hamartoma. These nodules frequently have focal areas of fat alternating with areas of calcification.⁵

In conclusion, both CT and MRI can help to identify intranodular fat, a reliable indicator of their benign nature that eliminates the need for invasive procedures, such as pulmonary biopsy or surgery. Although rare, intrapulmonary lipomas should be included in the differential diagnosis of homogeneous fat-containing lesions.

References

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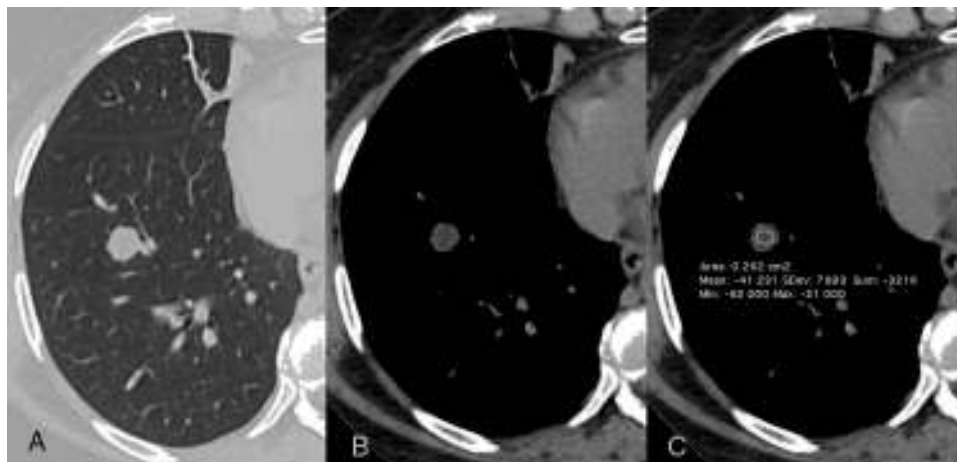


Fig. 1. Axial CT images with lung (A) and mediastinal (B) windows showing a well-defined hypodense nodule measuring 13 mm in diameter in the right lower lobe. The nodule has fat density (mean density, -41 HU) (C).

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