

Intrathoracic chest wall lipoma: mimicking a soft tissue neoplasm on a chest radiograph

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A 44-year-old eastern European woman presented to the tuberculosis (TB) service after she had a pre-employment TB screening chest radiograph. The frontal anteroposterior (AP) chest radiograph demonstrated a soft-tissue opacity projected over the lateral aspect of the right hemithorax, with poorly defined lateral margins (Fig 1a). The ancillary lateral chest radiograph demonstrated a well-defined soft-tissue lesion projecting posterior to the right breast, across the anterior thoracic wall into the right lung field (Fig 1b). The features were consistent with a soft-tissue extrapulmonary chest wall abnormality. The patient went on to have a computed tomography (CT) scan of the chest, which demonstrated a well-circumscribed, uniformly homogeneous, low-attenuation lesion measuring 3 cm, which projected across the pleural margin into the right lung field (Fig 1c). It had a mean Hounsfield unit (HU) value of -105 HU and was radiologically consistent with a benign intrathoracic lipoma. There was no mediastinal or hilar lymphadenopathy and the abdominal viscera were normal.

Lipomas are benign neoplastic mesenchymal tumours arising from adipose tissue. They are well defined and encapsulated. Intrathoracic lipomas are extremely rare, and usually located centrally in the anterior mediastinum, although they can also be found peripherally. They account for 1.6–2.3% of all mediastinal tumours, 0.1% of all lung tumours and 13% of all benign lung tumours.¹ Most are

asymptomatic and found incidentally, as in this case. However, larger, more central, lipomas may cause symptoms due to local mass effect.

The differential diagnosis of fat-containing intrathoracic tumours includes fibrolipoma, liposarcoma, teratoma, hibernoma and fibrolipomatous hamartoma.^{1,2} Intrathoracic lipomas can be distinguished radiologically from other tumours by the following characteristics: they are well defined, homogeneous and round, and have regular margins and a density that is similar to that of fat (approximately -100 HU).^{1,2} In contrast to lipomas, the other lesions listed above are not homogeneous, contain soft-tissue components and are infiltrative and much larger than lipomas; their CT density is >50 HU.¹

In most cases described in the literature, intrathoracic lipomas were surgically resected to establish the diagnosis and exclude malignancy.^{1,2} However, with the advancement of radiological techniques, confident diagnosis of intrathoracic lipomas and exclusion of malignancy can be made radiologically, replacing the need for invasive surgical procedures or even percutaneous biopsies.

References

- 1 Yıldırım M, Parlak E, Köroğlu M *et al*. Diagnostics of peripherally located intrathoracic lipoma. *Acta Inform Med* 2012;20:129–30.
- 2 Wood J, Henderson RG. Peripheral intrapulmonary lipoma: a rare lung neoplasm. *Br J Radiol* 2004;77:60–2.

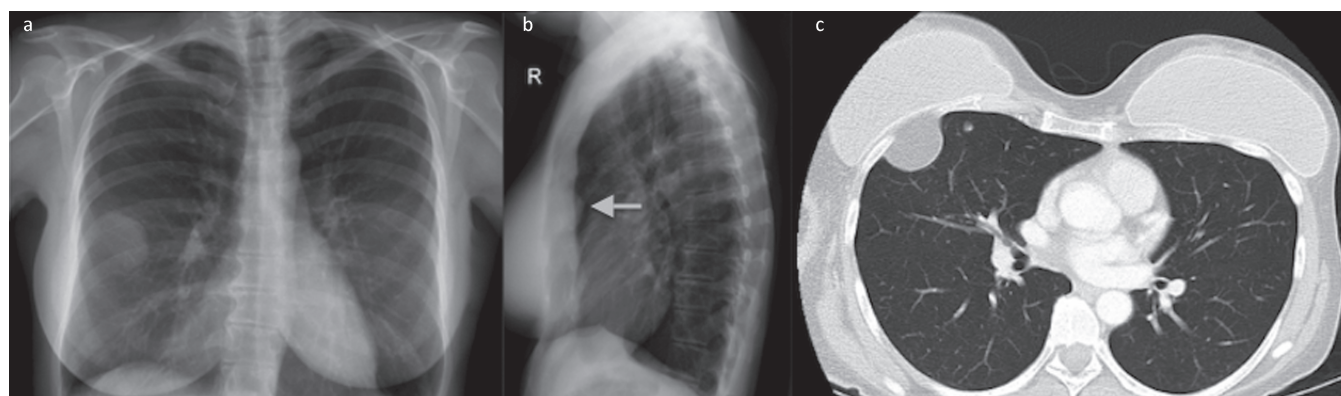


Fig 1. (a) AP chest radiograph showing a soft tissue opacity in the lateral aspect of the right hemithorax. (b) Lateral chest radiograph showing a soft tissue opacity posterior to the right breast. (c) CT chest scan showing a 3 cm lesion projected across the pleural margin into the right lung field. AP = anteroposterior; CT = computed tomography.

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