Focal eventration of diaphragm with fat content

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DESCRIPTION

A 60-year-old non-smoker female patient was referred for further evaluation for an incidentally detected chest radiographic abnormality. There were no previous cardinal chest symptoms. Chest radiograph (figure 1, left panel) and thoracic CT (axial sections; figure 1, right panel) had demonstrated a rounded, homogenous, non-calcified opacity with smooth borders in the left lower zone, leading to consideration of a possibility of lung cancer. Image-guided fine needle aspiration cytology examination was planned subsequent to the chest

radiograph findings. Careful review of the multiplanar thorax CT reconstruction images (figure 2) confirmed the diagnosis of focal eventration of the left diaphragm with fat content. The density was -80 Hounsfield units on CT corresponding to fat-containing eventration. The patient was reassured and no further intervention was performed.

Eventration of diaphragm (congenital/acquired) is a condition wherein a part/whole of diaphragmatic muscle is replaced by fibroelastic tissue associated with intrathoracic herniation of abdominal contents. Diaphragmatic continuity and costal

Figure 1 (left panel) Posteroanterior chest radiograph demonstrating a homogenous, non-calcified mass-like opacity in the left lower zone. (right panel) Axial sections of the thorax CT demonstrating a left lower lobe, non-spiculated opacity.

Figure 2 Coronal (left panel) and sagittal (right panel) reconstruction images of the thoracic CT demonstrating focal eventration of diaphragm with intrathoracic herniation of fat content.

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attachment are, however, preserved. The condition is usually asymptomatic and detected as an incidental radiological finding. Phrenic nerve injury (traumatic/postsurgical) is the commonest cause of acquired eventration.¹ If the CT slices are thicker, it can lead to a greater averaging of adjacent structures, which may be particularly problematic in imaging of lower thorax.² The same

phenomenon (known as partial volume effect) can lead to the recognition of focal diaphragmatic abnormality like partial eventration in our case as an intrapulmonary abnormality on axial images. Multiplanar CT imaging can delineate anatomy with greater detail thereby enabling accurate diagnosis and therefore avoiding further unnecessary diagnostic procedures. Asymptomatic focal diaphragmatic eventration does not require any treatment.

Learning points

- ▶ Eventration of diaphragm is usually diagnosed as an incidental, asymptomatic radiological finding on chest radiographs.
- ▶ Multiplanar reconstruction images of thoracic CT are particularly useful in evaluation of lesion in the lower thorax.
- ▶ Most patients with eventration of diaphragm do not require further management for the same.

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Competing interests None.

Patient consent Obtained.

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