Single massive thoracolithiasis

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DESCRIPTION
A 72-year-old man was referred to a chest X-ray due to persistent coughing, intermittent dyspnoea and atypical chest pain. The radiology report mentioned a 4 cm inhomogeneous opacity at the anterior right lower lung field (figure 1A). Subsequently, a CT scan of the thorax and upper abdomen revealed a sharply demarcated process located in the inferior medial part of the right major lung fissure (figure 1B). A positron emission tomography and computed tomography (PET-CT) scan displayed no FDG uptake. The patient was planned for elective video-assisted thoracoscopic surgery (VATS). Prior to surgery another CT scan showed that the process had migrated to the lateral aspect of the right minor fissure (figure 2A). VATS revealed a whitish excessively large entity with a smooth surface measuring 4 × 3 × 2 cm with no attachment to the lung or pleura (figure 2B). Thus, a mobile free body in the pleural space consistent with thoracolithiasis. One year earlier the patient had a normal thoracic CT scan. After surgical removal microscopic examination of the entity showed central calcification and mainly connective tissue fibres arranged in parallel with sparse cells.

Thoracoliths are mobile bodies in the pleural space and they are often encountered incidentally on CT chest examination. Cases of thoracolithiasis are rare and have been reported during the last decades including cases with both unilateral and bilateral multiple thoracoliths.1–4 To our knowledge this is the largest thoracolith reported. They usually range from 5 to 15 mm in size with some degree of calcification, but seldom they are very large. Thus, they are not reported on standard chest X-rays as they are masked by the nearby diaphragm as they hide deep in gravity-dependent locations.4 The aetiology remains unknown, but thoracoliths are believed to be formed of lipomas, necrotic pleural tissue, a granulomatous process or macrophage aggregation. The exact time frame in which thoracolithiasis is formed is unclear. This case demonstrates a 1 year time span for the formation of a single very large thoracolith. Main differential diagnosis is granuloma, but other pathologies should be considered such as primary lung tumours, sarcomas, metastases and hamartomas.5

Thoracolithiasis is a benign condition with mobile elements in the pleural space and patients are usually asymptomatic. Location may vary on serial imaging and is pathognomonic for this condition. Gravity dependent location, calcification and

Learning points

► Thoracolithiasis is a benign and rare condition with one or more mobile free bodies in the pleural space.
► Thoracoliths usually measure between 5 to 15 mm and they often contain some degree of calcification.
► Thoracoliths are likely to be under-reported, and when small in size, they may mimic other benign or malignant pathologies of the lung.
mobility of a mass demonstrated on serial CT imaging all play a central role in diagnosis. Occasionally, surgical removal is necessary for definite confirmation but, in general, treatment is not recommended.

The patient was discharged from hospital within a few days after an uneventful course.

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