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CLINICAL IMAGE

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Large infected pulmonary cyst mimicking empyema thoracis

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Abstract

Infected pulmonary cyst could be misdiagnosed as empyema thoracis. Here, we report an infected pulmonary cyst in a middle-aged male patient. This report could serve as a reminder for differential diagnosis of infected pulmonary cyst, for which surgical approach would be more safe and effective method.

KEYWORDS

empyema thoracis, infection, pulmonary cyst, surgery

A 65-year-old man with an unremarkable past medical history presented to our clinic with persistent cough and sputum. A chest radiograph and computed tomography (CT) demonstrated large amount of left pleural effusion with air-fluid level and passive atelectasis of left lung (Figure 1A,B). The preliminary diagnosis was empyema thoracis, which was established on the basis of the distinctive features on the computed tomographic scan. Initially, the less aggressive methods such as empirical antibiotics and chest tube drainage were planned. However, the patient was feeling worse with high fever and severe fatigue and one of the biggest concerns was the thick visceral pleural peel restricting lung expansion after pleural drainage. Finally, we decided that surgical exploration would be the best. Intraoperatively, large infected pulmonary cyst, which occupied most of the left lower lobe, was identified. The cyst was filled with large amount of foul-smelling pleural fluid. The patient underwent left lower lobe lobectomy and upper lobe decortication through the posterolateral thoracotomy. *Streptococcus constellatus* was cultured from the exudative pleural effusions. The patient recovered uneventfully and discharged on postoperative day 14.

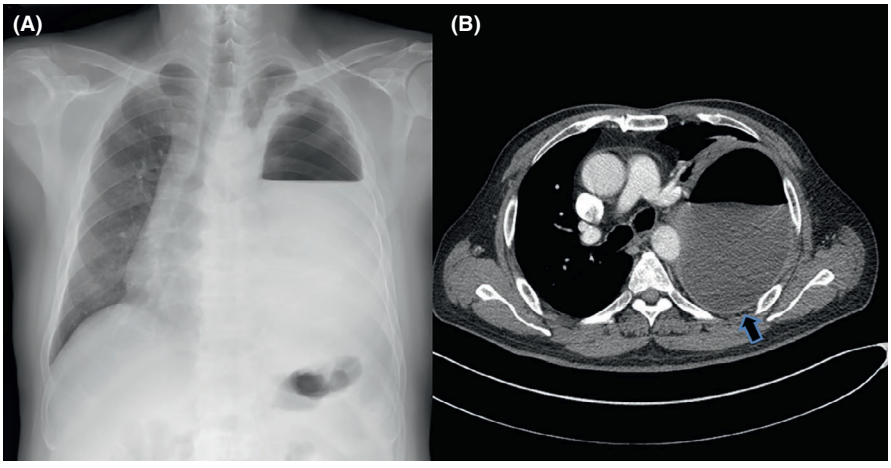

FIGURE 1 Chest X-ray showed air-fluid level in left hemithorax causing passive atelectasis of left lung (A). Chest computed tomography scan showed large amount of left pleural effusion with diffuse pleural thickening with enhancement (black arrow) causing left lung collapse and mediastinal shifting to right side (B)

The differential diagnosis of empyema thoracis and infected pulmonary cyst is not always clear. The split pleura sign on contrast-enhanced chest CT may be helpful. There is enhancement of the thickened visceral and parietal pleura, with separation by a collection of pleural fluid.[1] However, there may be cases where the diagnosis is ambiguous and the physician must decide an appropriate approach method. Traditionally chest tube insertion has been recommended for the drainage of pus.[2,3] However, the less aggressive method such as chest tube drainage would be ineffective and risky in the case of infected pulmonary cyst because pulmonary cyst could rupture. When a patient is experiencing severe infection symptoms and differential diagnosis of empyema thoracis and infected pulmonary cyst is ambiguous, surgical approach would be more safe and effective.[4,5] In summary, our report serves as reminder that infected pulmonary cyst should be considered in the differential diagnosis of empyema thoracis and surgical approach would be more safe and effective method when the diagnosis is uncertain.

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None.

CONFLICT OF INTEREST

No conflicts of interest.

ETHICAL APPROVAL

Not required.

CONSENT

Appropriate written informed consent was obtained for publication of this case report and accompanying images.

AUTHOR CONTRIBUTIONS

MKK: designed the project and wrote the manuscript. DKK: collected and created the figures. WH and HYH: wrote and edited the manuscript. All authors have read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

All data generated or analyzed during this study are included in this published article.

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