


Right Pleural Empyema Secondary to Liver Abscess Due to *Klebsiella pneumoniae*

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Abstract

A 64-year-old man with fever and dyspnea was referred to our hospital. He was diagnosed with right pleural empyema secondary to a liver abscess due to *Klebsiella pneumoniae*. He was successfully treated with decortication via a thoracotomy and percutaneous drainage of the liver abscess. Although it is very rare, we should keep in mind that pleural empyema can be caused by a liver abscess due to *K pneumoniae*.

Keywords

decortication, empyema, infection, pleural bacterial infection, thoracoscopy

Introduction

Pleural empyemas are usually due to amebic liver abscesses, and only a few cases of pyogenic liver abscesses causing pleural empyema have been reported. Herein, we report a case of a liver abscess due to *Klebsiella pneumoniae* causing right pleural empyema.

Case Report

A previously healthy 64-year-old man with fever for 1 month was referred to our hospital for evaluation of dyspnea. Chest X-ray showed a large right pleural effusion, and he was diagnosed with right pleural empyema due to *K pneumoniae* based on findings on thoracentesis. Computed tomography showed a large pleural effusion and a liver abscess (Figure 1). We initiated antibiotics and chest tube drainage. Since the right lung did not fully expand, decortication and pleural drainage via a thoracotomy were performed. After drainage of the pleural effusion, we found that almost the entire right lung was covered with a thick peel, which we removed to reexpand it (Figure 2). Although the diaphragm was also covered with a peel, it had no macroscopic holes. After recovering from dyspnea due to empyema, percutaneous liver abscess drainage was performed. *Klebsiella pneumoniae* was detected in the liver abscess. The patient recovered after chest surgery and liver drainage and has been doing well without recurrence of the abscess.

Discussion

We reported that a rare case of right pleural empyema secondary to liver abscess due to *K pneumoniae* was successfully

treated with thoracotomy and percutaneous liver drainage. Although amebic liver abscesses are common, liver abscesses due to *K pneumoniae* are relatively rare, especially in healthy persons. Whereas some cases of amebic liver abscesses causing pleural empyema have been reported, very few cases of pyogenic liver abscesses causing pleural empyema have been reported.¹⁻⁴ In our patient, *K pneumoniae* was detected from both the right pleural effusion and the liver abscess. *Klebsiella pneumoniae* often causes pneumonia, occasionally causing pleural empyema secondary to pneumonia.⁵ However, because the patient had no symptoms consistent with pneumonia and there was no findings suggestive of pneumonia on computed tomography, we hypothesized that he first developed a liver abscess and subsequently developed right pleural empyema secondarily. We should keep in mind that pleural empyema due to *K pneumoniae* can be caused by a liver abscess.

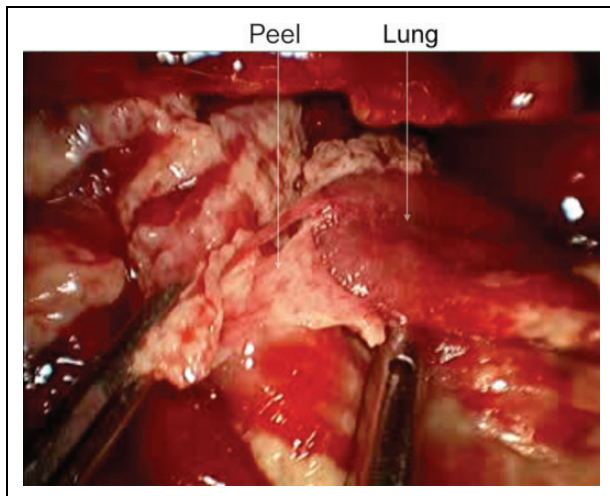
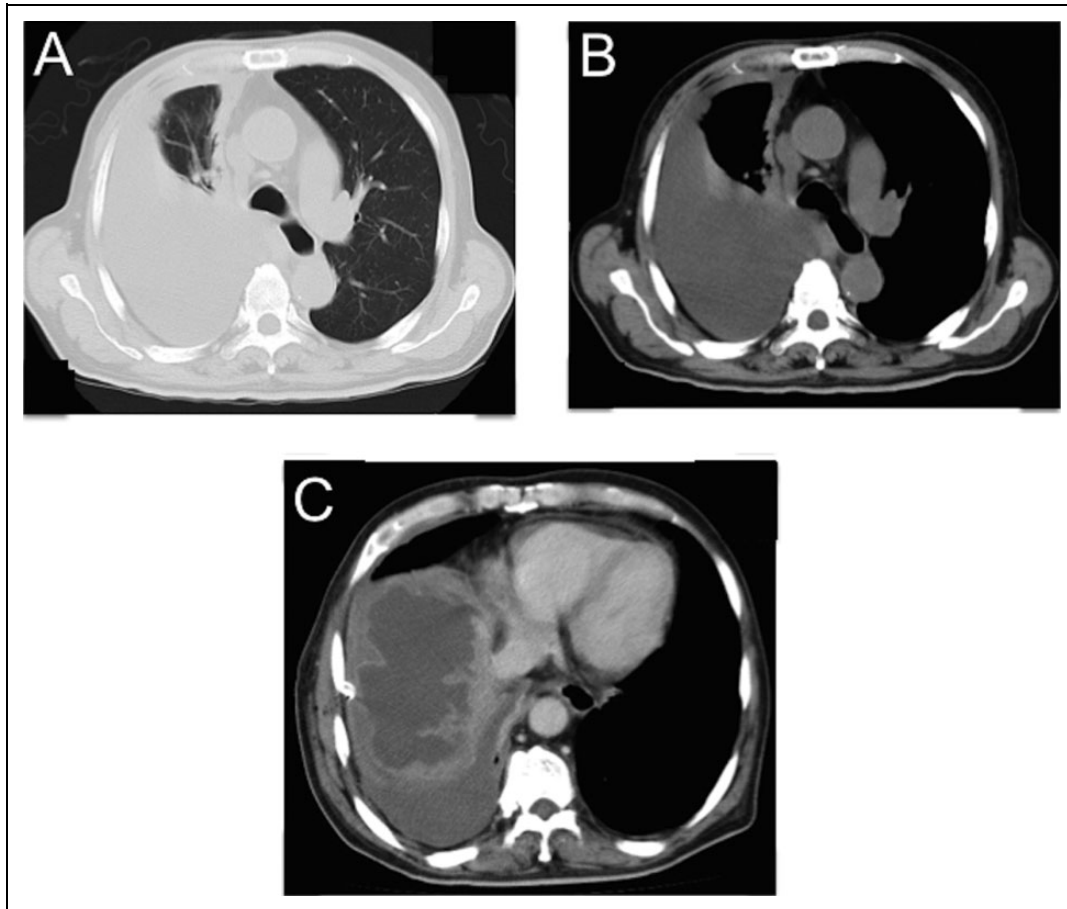
We successfully treated the patient with thoracotomy and percutaneous liver drainage. When chest tube therapy for pleural empyema fails, decortication should be considered to expand the lung.⁶ If therapy for pleural empyema is delayed, it becomes more difficult. In addition, our patient had dyspnea and required supplemental oxygen. Therefore, we treated the pleural empyema first. In cases of pleural empyema secondary to liver abscess, both pleural and liver

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abscess drainage should be performed, and the order of therapy and the need for pleural decortication should be determined based on the patient's condition.

Declaration of Conflicting Interests

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