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Case Report

Pleuro-cutaneous fistula complicating chest drain insertion for melioidosis empyema

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Abstract:

Melioidosis is a rare cause of empyema. Pleuro-cutaneous fistula is a pathologic communication between the pleural space and the subcutaneous tissues. Here we're presenting a case of a Pleuro-cutaneous fistula complicating chest drain insertion for melioidosis empyema. Fifty-year-old fisherman from Mannar Sri Lanka presented with predominant thoracic empyema. Pleural fluid culture isolated the Burkholderia pseudomallei. A chest drain was inserted for the empyema. Subcutaneous emphysema was noted following the removal of the chest drain and it worsened over time. CECT Chest revealed the right Pleuro-cutaneous fistula, which was complicated by hemopneumothorax and trapped lung. Surgical management was refused by the patient for fistula correction and trapped lung. The fistula was successfully closed with an autologous blood patch. Melioidosis can present with predominant thoracic empyema. Pleuro-cutaneous fistula can complicate the chest drain insertion in the patient with melioidosis empyema which can be treated with an Ultrasound-guided autologous blood patch.

Key Words

Pleuro-cutaneous fistula, melioidosis, empyema,

Introduction

Melioidosis is a rare cause of empyema (1). Pleuro-cutaneous fistula is a pathologic communication between the pleural space and the subcutaneous tissues. It's a rare complication of the infectious process (2). We present a case of melioidosis presenting as thoracic empyema which was complicated with Pleuro-cutaneous fistula.

Case History

A fifty-year-old male fisherman from Manner presented with a history of fever and shortness of breath with right-sided pleuritic chest pain for two weeks. He also had a productive cough. He had undergone a left-sided foot abscess incision drainage three weeks prior. There was no contact history of tuberculosis. He was diagnosed with diabetes fifteen years ago and started on insulin a year ago due to poor control. He is a smoker and occasional alcohol consumer. On examination, he was pale but not icteric. Respiratory examination revealed right-sided pleural effusion. His pulse rate was 110 beats/min of good volume and regular, and his blood pressure was 120/70. He had a partially healed wound on his right foot.

His inflammatory markers were high (FBC- WBC:8.39 10^9/L, Hb: 10.1 g/dL, Plt: 200*10^3, ESR 100mm/1st hour, CRP-310 mg/L). A chest x-ray showed right-sided pleural effusion and pleural fluid analysis revealed empyema. His Mantoux reading was less than 5mm and sputum for acid-fast bacilli was negative for three samples. His pleural fluid and wound culture isolated Burkholderia pseudomallei.

This patient was started on intravenous meropenem and oral co-trimoxazole. A chest drain was inserted and removed after 5 days. Following chest drain removal, he developed subcutaneous emphysema. It was observed that his subcutaneous emphysema worsened over time, so the patient underwent a CECT chest. The CECT chest revealed right-sided pneumothorax with a pleural cutaneous fistula and right-sided upper lobar segmental collapse consolidation due to a trapped lung. The patient was offered surgical correction but refused. He was managed with an autologous blood patch for the pleural cutaneous fistula. He was given a total of three months of antibiotics and his percutaneous fistula resolved following the autologous blood patch.

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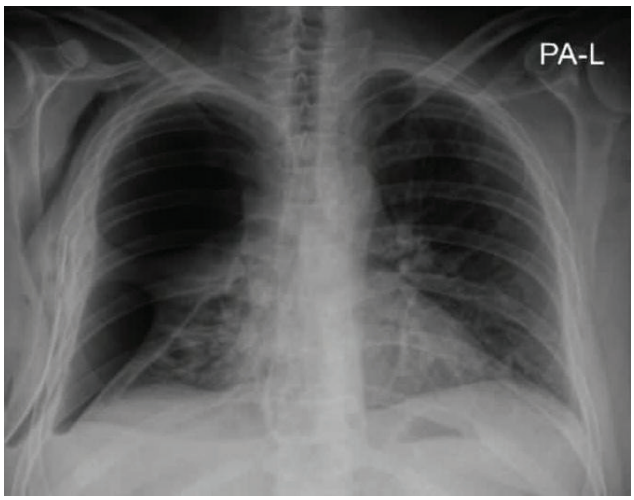

Figure 1 Chest Xray

Shows right sided pneumothorax, subcutaneous emphysema, and trapped lung.

Figure 2 shows subcutaneous emphysema note the previous IC tube scar.

Discussion

Melioidosis is an infection caused by the facultative intracellular gram-negative bacterium Burkholderia pseudomallei (3). Melioidosis is endemic in Sri Lanka with a wide geographic and demographic distribution (4). Most infections associated with this infection is a subclinical and clinically significant severe disease occurring particularly in patients with co-morbidities (diabetes mellitus, hazardous alcohol use, chronic kidney, and lung disease) (3). Our patient was diagnosed patient with diabetes for fifteen years and was poorly controlled. Burkholderia pseudomallei has been rarely mentioned as a causative organism of thoracic empyema (1) in previous literature and there were few case studies and series reported as Melioidosis Presenting Predominantly as Thoracic Empyema. This patient was presented Predominantly as Thoracic Empyema. Plural infection causing empyema needs chest drain insertion (5). Our patient was inserted into a chest drain and appropriate antibiotics were started. Pleuro-cutaneous fistula is a pathologic communication between the pleural space and the subcutaneous tissues (2). It's a rare complication of infectious process mainly reported in tuberculosis causing pleural effusion (2). In this patient, it's associated with Melioidosis. He was a candidate for surgical correction because of the Pleuro-cutaneous fistula with a trapped lung but the patient refused the surgical option. An ultrasound-guided autologous blood patch is a novel modality for pleural-cutaneous fistula (6) correction offered to our patient. It was successful and the resolution of subcutaneous emphysema was observed.

Conclusion

Melioidosis can present with predominant thoracic empyema. Pleuro-cutaneous fistula can complicate the chest drain insertion in the patient with melioidosis empyema which can be treated with an Ultrasound-guided autologous blood patch.

Consent

Written consent was obtained from the patient for publication of this study.

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