

Tension Pyothorax: A Rarthoracic Emergency

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Introduction

A 54-year-old woman presented with shortness of breath and cough of five day's duration. Two weeks earlier she was evaluated for cough and fever. She was treated for community acquired pneumonia. At that time, a left sided thoracentesis was done for moderate pleural exudative pleural effusion. Pleural fluid analysis revealed a parapneumonic sterile effusion. The physical examination revealed a blood pressure of 80/52 mmHg, a heart rate of 120 beats per minute, a respiratory rate of 32 per minute, a temperature of 102 degrees Fahrenheit, and pulse oximetry at 88% in room air. On clinical examination, no air entry was noted over the left lung. A chest x-ray showed a massive left-sided pleural effusion with deviated trachea and mediastinal structures. A chest tube was placed and 1.5 liters (L) of frank pus was evacuated immediately. Patient's hemodynamics immediately returns to normal parameters after tube thoracostomy. A total of 3 L of pus have been evacuated slowly over 48 hours. A sample from pleural fluid grew *Staphylococcus aureus*. A broad spectrum intravenous antibiotic was started immediately after the procedure and later was modified according to the culture's sensitivity results. When the patient's clinical and laboratory results normalized, he was then discharged on oral antibiotic. At 3 month follow up, the patient was doing well.

Conclusion

Tension prothorax is rare and may occur as a complication of

pneumonia or lung abscess [1]. The accumulation of pus within the pleural cavity under pressure and in large volume may be sufficient to cause hemodynamic compromise and respiratory distress. The physiologic derangement is similar to that seen in tension pneumothorax. Increased intrathoracic pressure results in markedly decreased venous return as well as cardiac output. Typical clinical presentation includes fever, tachycardia, cough, dyspnea, and chest pain. Urgent treatment is life-saving and entails immediate pleural fluid drainage through a chest tube [2]. After drainage, treatment of underlying infection by appropriate antibiotic is essential [3]. Pyothorax is more common in immunocompromised patients like patient with HIV infection [4].

Given the serious progression and evolving nature of this case, it seems reasonable to consider tension prothorax as a cause of emergent cardiac arrest with excellent outcome after proper management.

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