

Abstract for Case Study

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Title: Severe Pneumonia Complicated by Hydropneumothorax in Young Diabetic Patient

Introduction:

Hydropneumothorax is an uncommon complication that can arise from severe pneumonia. Antibiotic treatment may prove inadequate; therefore, chest tube drainage should be considered in order to improve the patient's prognosis of recovery. The case study of a young diabetic man who presented with severe hypoxemia as a result of severe pneumonia with hydropneumothorax is detailed in this abstract.

Case description:

A 20-year-old gentleman with underlying diabetes mellitus, non-compliant with follow-up, presented to the emergency department with 3 days history of fever, cough and breathlessness. Upon arrival, he was alert and fully conscious but appeared tachypneic. His vital signs were as follows: blood pressure of 143/73, temperature of 37.1, heart rate of 132 beats per minutes, respiratory rate of 35 and oxygen saturation (SpO₂) of 86% on room air. Following VM60%, with a maximal SpO₂ of 94% at its peak, he was transferred to a high flow nasal cannula FiO₂ 0.6, with a flow rate of 60L/min and 97% at its peak. Chest X-ray revealed left lower zone consolidation with a well-defined lucency lesion retrocardiac. Patient further desaturated in 10 hours and necessitated up to FiO₂ 1.0 to achieve SpO₂ 98%. Thus, proceeded with elective intubation. A contrast-enhanced CT (CECT) of the thorax was performed and showed a loculated pleural collection with an air-fluid level in the left mid and lower hemithorax, with a maximum depth of 4.0cm, suggestive of hydropneumothorax likely due to infection. Following admission to the intensive care unit, the patient was co-managed by respiratory team. IV flagyl was added to the course of antibiotics beside ceftriaxone and azithromycin.

Discussion:

Numerous factors can lead to hydropneumothorax, such as infection, malignancy, cystic lung disease, complication of an invasive procedure, and infrequently connective tissue disorders. The underlying cause will dictate the course of treatment. The diagnosis of hydropneumothorax is suspected from chest x-ray and confirmed by computed tomography.

Conclusion:

This case underscores the need to consider loculated hydropneumothorax who require high ventilation setting. Early recognition, accurate diagnosis through imaging and prompt intervention are crucial in treating a diabetic patient with hydropneumothorax secondary to severe pneumonia.

Keywords: Hydropneumothorax, pneumonia