

Clinical Image

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Shifting perspectives: Mucus plug migration post chest physiotherapy

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Abstract

We present a case of an 81-year-old male who developed acute hypoxemic respiratory failure secondary to left-sided mucus plugging. He was not a candidate for bronchoscopy and chest physiotherapy was utilized for airway clearance. The left side cleared but shockingly the right side showed a new opacification, likely mucus plug migration that ultimately required intubation and mechanical ventilation. This case highlights the potential consequences of chest physiotherapy.

Keywords: Acute hypoxemic respiratory failure; Mucus plug; Chest physiotherapy; Bronchoscopy.

Introduction

We present an interesting case of a suspected migrating mucus plug after chest physiotherapy in a patient with acute respiratory decompensation. While chest physiotherapy is beneficial for many patients, there are also risks associated with it.

Case description

A 81-year-old male presented with cough and blood-tinged sputum. Past medical history was notable for stroke resulting in bedbound state, dementia, and chronic aspiration. During his hospitalization, the patient had an acute hypoxemic event. Chest x-ray demonstrated a large opacification in the left hemithorax with corresponding leftward mediastinal shift (Figure 1), suggestive of central mucus plugging. Patient was not a candidate for bronchoscopy due to critically ill state and high oxygen requirements. In addition to mucolytics and postural drainage, chest physiotherapy was utilized to augment airway clearance. Shockingly, a follow-up chest x-ray the next morning revealed clearance of the left-sided mucus plug however, he consequently developed a large right-sided opacification suggestive of right-sided central mucus plugging (Figure 2). Ultimately, patient required intubation and mechanical ventilation.

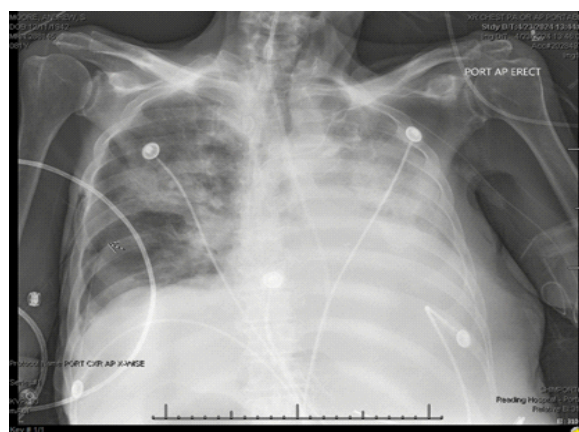


Figure 1: Chest X-ray showing large opacification in the left hemithorax with corresponding leftward mediastinal shift.

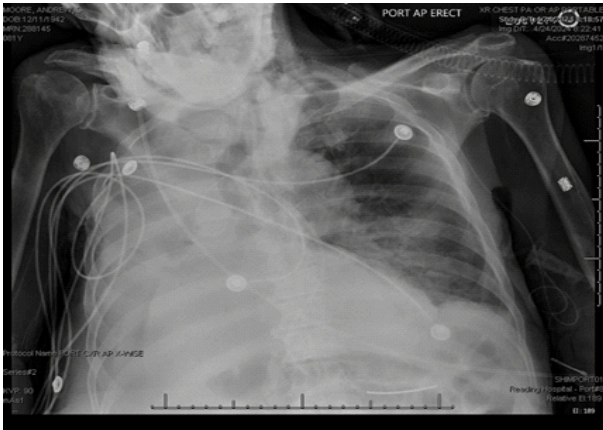


Figure 2: Chest X-ray showing near complete opacification of the right hemithorax with associated volume loss suggesting central mucous plugging.

Discussion

While bronchoscopic intervention is the treatment of choice for acute mucus plugging, additional interventions such as chest physiotherapy, postural drainage and mucolytics can assist in clearance if the patient is not a candidate for bronchoscopy [1]. However, these treatments are not always effective [2]. In our patient, we suspect that these treatments allowed displacement of the mucus to larger airways but unfortunately never allowed for expulsion and resulted in contralateral mucus plugging.

References

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