

Introduction

Pneumoscrotum is a rare condition involving swelling of the scrotal sac due to accumulation of air or gas. While the condition is usually benign, its underlying cause is usually life-threatening and must be addressed.

Case Presentation

- A 68-year-old male with a history of hypertension presented with COVID-19 pneumonia.
- On presentation, he was febrile at 104F with oxygen saturation of 88% on room air.
- Lactic acid was elevated at 2.8 and chest radiograph (CXR) showed bilateral ground glass opacity.
- He was treated with dexamethasone, remdesivir, empiric antibiotics for COVID-19, and therapeutic enoxaparin.

Hospital Course

- Over the subsequent days, his oxygen requirement gradually increased where he was placed on non-invasive bilevel ventilation after being transferred to the ICU.
- There, he developed worsening respiratory failure with severe agitation.
- CXR showed left apical pneumothorax and pneumomediastinum with subcutaneous emphysema.
- He was emergently intubated and a chest tube was placed.
- Approximately 24 hours after intubation and chest tube placement, he developed worsening subcutaneous emphysema, resulting in pneumoscrotum.
- Despite best efforts including convalescent plasma therapy, the patient's respiratory failure and subcutaneous emphysema continued to worsen, and he expired.



Figure 1: CXR with bibasilar pneumonia



Figure 2: CXR with left pneumothorax and extensive subcutaneous emphysema and worsened multifocal pneumonia

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Figure 3: CXR status post endotracheal intubation and chest tube



Figure 4: Pneumoscrotum

Discussion

- Pneumoscrotum is a rare condition. It can be divided into scrotal emphysema and scrotal pneumatocele.
- Palpable crepitus is a clinical finding of scrotal emphysema.
- The etiology of pneumoscrotum is wide and various, ranging from infection with gas-producing organisms to spread of gas/air from distant sites and organs.
- Subcutaneous emphysema is not an uncommon complication of pneumonia or pneumothorax.
- In this case, pneumoscrotum likely resulted from worsening subcutaneous emphysema after mechanical ventilation as the patient required high peak airway pressures to maintain oxygenation as is common with COVID-19 related acute respiratory distress syndrome.
- Our case illustrates the importance of recognizing spontaneous pneumothorax as a complication of COVID-19 pneumonia and recognizing that pneumoscrotum can be a manifestation of an underlying diagnosis with high morbidity and mortality.
- Interestingly, pneumoscrotum has even been reported to have value as an early diagnostic sign of tension pneumothorax in blunt trauma.
- Based on our literature review, this is the first case of pneumoscrotum reported in a COVID-19 patient at the time of writing.