



## UNUSUAL PRESENTATION OF SPONTANEOUS PNEUMOMEDIASTINUM: A CASE REPORT

### Pulmonary Medicine

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### ABSTRACT

**Introduction-** Pneumomediastinum is a condition in which there is presence of air or in the mediastinum, It mostly results due to rupture of microscopic alveoli. It usually occurs in healthy and young patients devoid of any severe underlying pulmonary pathology occurring in about 1 per ten thousand hospital admissions and it may also be a less diagnosed condition

**Case Report-** A 26-year-old male presented to the Emergency with complaints of dyspnoea, fever, cough and severe retrosternal chest pain. A radiograph of the chest revealed left lung collapse with no signs suggestive of pneumothorax or pneumomediastinum. CT of the chest done in view of no clinical improvement and to rule out cause of collapse which revealed Pneumomediastinum. He was treated conservatively with complete bed rest, broad spectrum IV antibiotics, oxygen therapy and steroids

**Conclusion-** Although rare Spontaneous Pneumomediastinum can present in the absence of any clinical findings. Most of the cases can be treated conservatively without any invasive procedures.

### KEYWORDS

Pneumomediastinum, Pneumothorax, alveoli

### INTRODUCTION

Pneumomediastinum is a condition in which there is presence of air or in the mediastinum, It mostly results due to rupture of microscopic alveoli and can also result from air escaping from the intrathoracic airways, gastrointestinal tract and upper respiratory tract. Gas can also be generated by infection of the visceral space by bacteria and even after trauma or surgery outside air can enter mediastinum<sup>1</sup>. Spontaneous pneumomediastinum usually occurs in healthy and young patients devoid of any severe underlying pulmonary pathology occurring in about 1 per ten thousand hospital admissions and it may also be a less diagnosed condition<sup>2</sup>

### Case Report

A 26 year-old male presented to the Emergency department with complaints of dyspnoea, fever, cough with mucoid expectoration and severe retrosternal chest pain. On examination apex beat appeared to be shifted to the left mid axillary line, reduced intercostal spaces over the left side. Diffused dullness is heard on percussion over whole of the left chest and upon auscultation air entry was reduced over the entire left lung and no subcutaneous emphysema was seen over any part of the body. TLC was found to be 21000. Sputum for gram stain culture/sensitivity was also sent. A radiograph of the chest revealed left lung collapse with no signs suggestive of pneumothorax or pneumomediastinum (image 1). CT of the chest done in view of no clinical improvement and to rule out cause of collapse (image 2) which revealed Pneumomediastinum. He was treated conservatively with complete bed rest, broad spectrum IV antibiotics, oxygen therapy, nebulised bronchodilators, steroids and analgesics and mucolytics. In the mean time sputum culture and sensitivity reports came which were suggestive of pseudomonas infection. His pneumomediastinum resolved over a period of 2 weeks and showed dramatic clinical and radiological (image 3,4) improvement. Subsequent spirometry was consistent with a normal study and was discharged with a prescription of oral antibiotics.

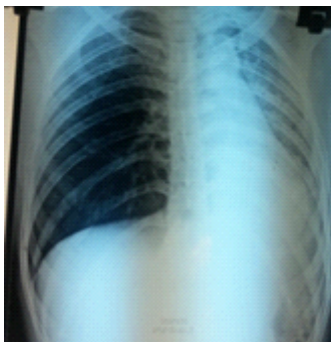


Image 1 ( X ray showing Lung collapse)

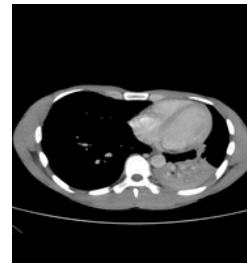


Image 2 (CT showing Pneumomediastinum)

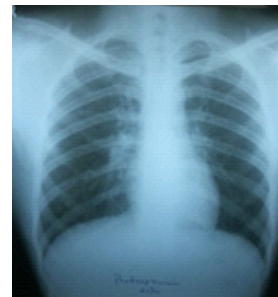


Image 3 (Xray showing Resolution)



Image 4 (CT showing resolution of Pneumomediastinum)

### DISCUSSION

Spontaneous pneumomediastinum (Hamman's syndrome) is a infrequent disease. It is benign and usually non recurrent, commonly associated with raised intra alveolar pressure. It has also been noticed that healthy and young male patients are affected more commonly due to this condition. The patient frequently presents with chest pain and dyspnea and subcutaneous emphysema was the most frequent sign found in this condition. Palpable crepitus usually present but may also be absent at times. Chest pain is mostly retrosternal and it also radiates

to neck and sometimes back. Almost all patients present with normal vital signs and they are found to be healthy. Characteristic sign which is known as Hamman's sign characterized by Precordial crunching sound synchronous with the heartbeat is present<sup>3</sup>. It is usually present in more than half the patients, though it was absent in this case<sup>4</sup>. Treatment is most commonly conservative mainly being medical observation of few days mostly according to the patient symptoms and signs. The patients can be discharged safely as mostly they do not have any complications and very rarely do they have any recurrence. This case also shares few things with most cases reported in the past mainly about the form of patient presentation, treatment approach and also regarding the clinical improvement post treatment. Chest pain, although is non-specific is the most frequently involved symptom and when found with dyspnea, it is found in around 82% of cases<sup>5</sup>. The presence of the Hamman sign is extremely variable (mostly due to the prejudice of its detection). Subcutaneous emphysema is usually the only apparent alteration

### CONCLUSION

Although rare Spontaneous Pneumomediastinum can present in the absence of any clinical findings. A careful history taking, radiological evaluation along with high degree of clinical acumen is necessary to diagnose it. Most of the cases can be treated conservatively without any invasive procedures.

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