

## Persistent Pneumothorax a Diagnostic Conundrum

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**Citation:** Samer T (2021) Persistent pneumothorax a diagnostic conundrum. *Transl Biomed* Vol.12 No.3: 162.

**Received date:** February 18, 2021; **Accepted date:** March 08, 2021; **Published date:** March 15, 2021.

### Introduction

A persistent pneumothorax constitutes constant air bubbling from an in situ intercostal drain, for 48 h after insertion. Persistent pneumothorax requires proper identification of potentially treatable etiologies. We report a case of persistent pneumothorax caused by severe COVID19 virus infection.

### Case Description

60-years-old morbidly obese male with a past medical history of hypertension, type 2 Diabetes Mellitus, Atrial fibrillation, and sleep apnea. The patient presented to the ER with shortness of breath, fever, and progressive generalized weakness for 3 days. The Patient's history was noteworthy for exposure to a sick family member. Physical exam revealed that his Blood Pressure is 133/72 mm/hg, HR 93 BPM, Saturation 82% in room air, and temperature 102.2°F, Nasopharyngeal swab for Corona virus came back Positive on the second day of admission, Chest x-ray depicted bilateral airspace opacities suspicious for multifocal infiltrate pneumonia, with right chest pneumothorax. The cardiothoracic surgeon was consulted, and an intercostal chest tube was inserted on the right side. Chest x-ray after chest drain insertion revealed a complete resolution of right chest pneumothorax, which alleviated the patient's shortness of breath, and his saturation in room air increased to 93%, but there was continuous air bubbling through the chest drain for three days. Then the patient reported a new onset of chest pain and recurrence of shortness of breath, in-room air his saturation dropped to 82% after it was 93%. A Chest x-ray showed recurrence of right chest pneumothorax despite continuous air

bubbling through the chest tube [1]. The cardiothoracic surgeon placed a second intercostal chest tube on the right side, then the patient endorsed improvement in his shortness of breath, and his saturation in room air increased to 93% with continuous air bubbling through the chest drain. A chest x-ray after the second chest drain showed right lung expansion and residual right pneumothorax, CT scan of the chest showed small to moderate right pneumothorax with Pneumomediastinum [2]. The cardiothoracic surgeon decided to proceed with a CT scan guided chest tube placement, a CT scan image of the chest after the procedure revealed a complete resolution of the right chest pneumothorax.

### Conclusion

Persistent pneumothorax is a diagnostic dilemma because the list of differential diagnoses are lengthy which may include Necrotizing lung infections, cystic lung diseases such as (Langerhans cell Histiocytosis, Metastasis, etc.), and traumatic or iatrogenic Bronchopleural Fistula. This case describes a first persistent pneumothorax resulted from severe COVID 19 virus infection to our knowledge.

### References

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