

Traumatic Bronchial Rupture - An Unusual Case

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1. Introduction

Trauma is the third most common cause of death in all age groups. One out of four patients die due to chest trauma. Blunt injuries constitute the majority of chest trauma. This indicates the importance of chest trauma among all traumas and it requires urgent intervention.

2. Case Presentation

- A 24 year old male sustained blunt injury to the chest in October 2020
- He was climbing a tree during the rain & he slipped and fell down
- There were no open wound
- He was diagnosed to have multiple rib fractures and left pneumothorax for which ICD was inserted in Trichy GH
- In March 2021; patient referred to us with a diagnosis of Diaphragmatic hernia

- Pre operative fiber optic bronchoscopy was done
- Left bronchial cut off was noted

3. Discussion

Patient was planned for elective left posterolateral thoracotomy and proceed Operative steps

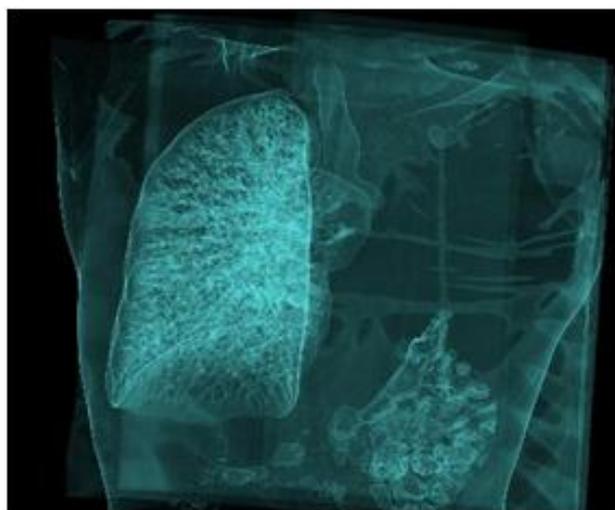
- Left posterolateral Thoracotomy
- Left 5th rib resection done
- Adhesiolysis done
- Intra operative bronchoscopy – for localizing site of stenosis
- Left main Bronchus reconstruction

Method

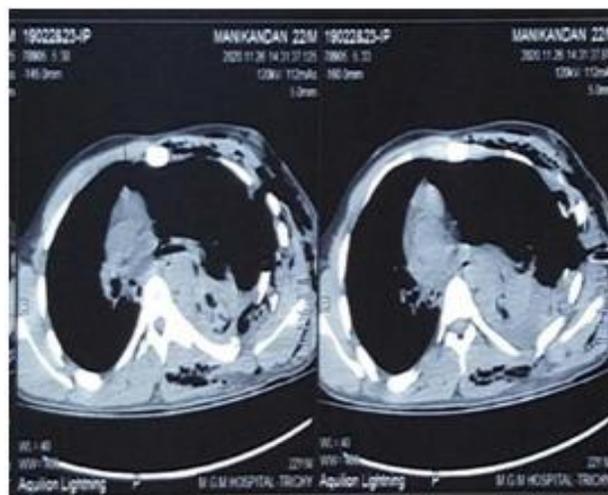
Continuous suture using 4 - 0 prolene 17 mm needle

- Chest wall reconstruction done using prolene mesh
- Incision closure done in layers

Preop CT scan



Fallen Lung sign



CT Chest: Left Bronchial Cut Off

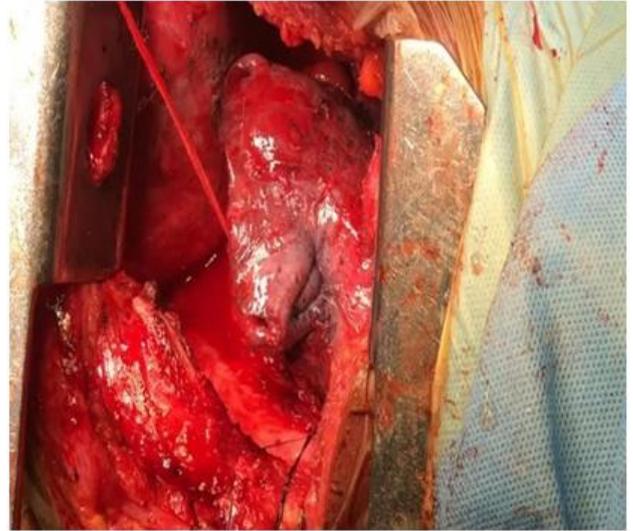
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Intra operative assessment of stenosis



Lung expansion adequate after anastomosis, no air leak



Defining the landmarks



Chest X - ray at POD - 1



End to end anastomosis of bronchial stump



Chest X - ray at POD - 3



Chest X - ray at POD - 1month

Post op CT - Chest



4. Conclusion

- High degree of suspicion is required
 - The first CT – fallen lung sign
 - Suspicion and specialist management right away
 - Good radiology and 3D reconstruction to assess the anatomical extent of the problem
 - Importance of pre operative and intra operative bronchoscopy in airway surgery
 - Even when delayed – an attempt should be made at reconstructive surgery rather than resection of lung parenchyma
 - Case in point – Surgery performed after 6 months
 - This case would have gone for pneumonectomy, for which we have done Lung Parenchymal sparing and Bronchoplastic surgery during peak covid time
- In last 8 years we have done about 70 reconstructive surgeries in which the success rate is 92%.

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