

A post-surgery lung hernia: A case report

Pavlos Siozos¹, Ilektra Voulgareli¹, Stylianos Loukides¹, Anna Karakatsani¹

ABSTRACT

A 67-years-old patient, male, former smoker, with a medical history of severe COPD was admitted as a case of exacerbation of COPD. A chest CT scan revealed a lung hernia in the left upper lung zone. His medical history included segmental resection of the left upper pulmonary lobe. The patient did not refer to any symptoms, despite the presence of a lung hernia and chest wall deficit. Post-surgery patients could have complications that go unnoticed. Clinicians should remain vigilant for the atypical appearance of complications and post-operative management should be emphasized.

AFFILIATION

1 2nd Department of Pulmonology, National and Kapodistrian University of Athens, Medical School, 'Attikon' University Hospital, Haidari, Athens, Greece

CORRESPONDENCE TO

Pavlos Siozos, 2nd Department of Pulmonology, National and Kapodistrian University of Athens, Medical School, 'Attikon' University Hospital, Haidari, Athens, Greece
E-mail: pavsioz@yahoo.gr

KEYWORDS

thoracic surgery, nodule, lung hernia, segmental resection, case report

Received: 6 October 2024

Revised: 5 February 2025

Accepted: 10 June 2026

INTRODUCTION

Lung hernia is an uncommon condition. Lung hernias occur when the lung parenchyma along with pleural membranes protrude through a defect in a chest wall¹. A few case reports have been described and there are no definite guidelines for the management of these occasions. A lung hernia is caused due to a thoracic surgery or a trauma. Patients do not report any symptoms and often the diagnosis goes unnoticed. Although the natural history of lung hernias reveals stability or slow progression, without serious implications, clinicians should be aware of how to recognize and make a diagnosis of the disease².

CASE REPORT

The patient, 67 years old, male, former smoker (50 packets per year), medical history of severe COPD (FEV1=1.22 L, 40% of predicted), came to the emergency department due to fever, dyspnea, and productive cough. The patient's medical history included segmental resection of the left upper pulmonary lobe for diagnostic purposes, due to the presence of a lung nodule, four years ago. The biopsy indicated a cryptogenic organizing pneumonia. The patient's diagnosis was infective COPD exacerbation and was treated with antibiotics, methylprednisolone 40 mg iv for 5 days, and bronchodilator therapy. Upon physical examination, a small protrusion was noted in the left anterior chest wall, which became more prominent during coughing and deep breathing. He underwent a chest CT scan, which revealed severe emphysema in all lung zones, as well as a lung hernia to the left upper lung zone (Figure 1), additionally an X-ray was performed (Figure 2). Although, the patient

Figure 1. Chest CT scan, revealing severe emphysema in all lung zones, as well as a lung hernia to the left upper lung zone



Figure 2. X-ray of the lungs

did not report any symptoms, associated with lung hernia, a future surgical intervention was decided.

DISCUSSION

Lung hernia is a rare health condition. Lung hernias occur when the lung parenchyma along with pleural membranes protrude through a defect in a chest wall. Classification is based on both the etiology (congenital and acquired) and anatomic location (cervical, thoracic, diaphragmatic, mediastinal). A lung hernia is described after a trauma or after thoracic surgery. Most patients do not describe any symptoms associated with lung hernia. Also, it should be noted that lung hernia typically remains stable in size or progression is very slow¹⁻³. There is controversy as to the ideal management of these patients. A more conservative method, such as observation, could be selected for asymptomatic patients^{4,5}. However, conditions that increase intrathoracic pressure, such as coughing, can exacerbate the symptoms and reveal the hernia, and patients are at risk of developing complications, like strangulation of the hernia contents. So, surgical intervention is recommended for those occasions, with various techniques⁶.

CONCLUSION

In our case, lung hernia is characterized as thoracic, acquired, due to the prementioned surgical procedure. The patient has a medical history of severe COPD and cough is a prominent symptom. Also, he suffered more than two exacerbations per year. Consequently, there is a greater risk of deterioration of lung hernia, due to increased intrathoracic pressure. Recommended treatment includes surgical intervention with lung hernia reduction and repair of chest wall defect, so he was referred to a thoracic surgeon for specialized management.

CONFLICTS OF INTEREST

The authors have each completed and submitted an ICMJE form for disclosure of potential conflicts of interest. The authors declare that they have no competing interests, financial or otherwise, related to the current work.

I. Voulgareli reports that in the past 36 months received from AstraZeneca and Chiesi Hellas an honorarium for invited scientific presentation and from ELPEN and Guidotti registration fee and accommodation support for attendance at a scientific meeting and from Chiesi Hellas, accommodation and registration fee support for attendance at a scientific meeting.

FUNDING

There was no source of funding for this research.

ETHICAL APPROVAL AND INFORMED CONSENT

Ethical approval was not required for this study. The patient provided informed consent for the publication of his clinical data. A CARE checklist is provided in the [Supplementary file](#).

DATA AVAILABILITY

The supporting data are available from the authors upon reasonable request.

PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.

SUPPLEMENTARY FILE DISCLAIMER

The content has been provided by the author(s) and has not been reviewed, verified, or endorsed by European Publishing. It may not have undergone peer review. The views, opinions, and recommendations expressed are solely those of the author(s) and do not necessarily reflect the position of European Publishing. European Publishing accepts no responsibility or liability for any consequences arising from the use of, or reliance on, this content.

REFERENCES

1. Minai OA, Hammond G, Curtis A. Hernia of the lung: A case report and review of literature. *Conn Med*. 1997;61(2):77-81. Accessed June 10, 2026. <https://pubmed.ncbi.nlm.nih.gov/9066196/>
2. Madani MH, Abdelhafez YG, Nardo L. Natural history of lung hernias. *Respiration*. 2023;102(9):843-851. doi:[10.1159/000533196](https://doi.org/10.1159/000533196)
3. Weissberg D, Refaely Y. Hernia of the lung. *Ann Thorac Surg*. 2002;74(6):1963-1966. doi:[10.1016/s0003-4975\(02\)04077-8](https://doi.org/10.1016/s0003-4975(02)04077-8)
4. Ross RT, Burnett CM. Atraumatic lung hernia. *Ann Thorac Surg*. 1999;67(5):1496-1497. doi:[10.1016/s0003-4975\(99\)00225-8](https://doi.org/10.1016/s0003-4975(99)00225-8)
5. Kuckelman J, Karmy-Jones R, Windell E, et al. Traumatic thoracic rib cage hernias: Operative management and proposal

- for a new anatomic-based grading system. Am J Surg. 2018;215(5):794-800. doi:[10.1016/j.amjsurg.2017.12.013](https://doi.org/10.1016/j.amjsurg.2017.12.013)
6. D'Ambrosio PD, Silva HF, Mariani AW, Schmidt Junior AF, Pêgo-Fernandes PM. Post-thoracotomy lung hernia. J Bras Pneumol. 2023;49(1):e20220325. doi:[10.36416/1806-3756/e20220325](https://doi.org/10.36416/1806-3756/e20220325)