SAMPLE CASE REPORT

Title: Incidental Detection of Pulmonary Sequestration on Computed Tomography: A Rare Case Report

Authors: First Author1, Second Author2
Affiliations:
1Department of Radiology, XYZ University, City, Country
2Department of Medical Imaging, ABC Medical College, City, Country
Corresponding Author: Dr. First Author
Email: email@example.com

Abstract
A 35-year-old male presented with recurrent episodes of productive cough and intermittent chest discomfort over six months. Initial chest radiography showed a persistent opacity in the left lower lung zone. Contrast-enhanced computed tomography (CT) revealed an intralobar pulmonary sequestration supplied by an anomalous artery originating from the descending thoracic aorta. The diagnosis was confirmed using CT angiography, which clearly demonstrated the aberrant systemic arterial supply.
Keywords: Pulmonary Sequestration; Computed Tomography; CT Angiography; Congenital Lung Disease; Case Report

1. Introduction
Pulmonary sequestration is a rare congenital malformation in which a portion of non-functioning lung tissue lacks communication with the normal bronchial tree and receives its blood supply from the systemic circulation. Although uncommon, accurate diagnosis is essential because delayed recognition may lead to recurrent infections and complications. Modern imaging modalities, particularly contrast-enhanced CT and CT angiography, play a crucial role in diagnosis and surgical planning.

2. Case Presentation
A 35-year-old man presented to the outpatient department with recurrent productive cough, occasional fever, and mild left-sided chest discomfort. Physical examination was unremarkable except for reduced breath sounds over the left lower lung field. Routine laboratory investigations showed mild leukocytosis. Chest radiography demonstrated a persistent homogeneous opacity in the left lower lobe. Contrast-enhanced CT of the thorax revealed a well-defined area of abnormal lung tissue in the posterior basal segment of the left lower lobe. The patient underwent elective video-assisted thoracoscopic surgical resection. Histopathological examination confirmed the diagnosis, and the postoperative recovery was uneventful. At the three-month follow-up, the patient remained symptom-free.

3. Discussion
Pulmonary sequestration accounts for a small percentage of congenital pulmonary anomalies and is frequently diagnosed during adolescence or adulthood following recurrent respiratory infections. CT angiography is considered the imaging modality of choice because it accurately demonstrates the abnormal systemic arterial supply and venous drainage, enabling appropriate surgical planning. Early diagnosis and surgical management generally result in excellent clinical outcomes and prevent recurrent pulmonary infections.

4. Conclusion
This case demonstrates the importance of advanced cross-sectional imaging in diagnosing rare congenital pulmonary anomalies. Contrast-enhanced CT and CT angiography provide detailed anatomical information that facilitates accurate diagnosis, treatment planning, and improved patient outcomes.

5. Patient Consent Statement
Written informed consent was obtained from the patient for publication of this case report and the accompanying clinical and imaging information. Every effort has been made to protect the patient's identity.

6. Declarations
Ethical Approval: Not applicable for a single case report according to institutional policy.
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Conflict of Interest: The authors declare no conflict of interest.
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Data Availability: Data supporting the findings are available from the corresponding author upon reasonable request while maintaining patient confidentiality.

7. References
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