

Squamous Cell Lung Carcinoma with Intracardiac Transmural Invasion and Large Mediastinal Mass

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INTRODUCTION

Squamous cell carcinoma (SCC) of the lung is a prevalent form of lung cancer, typically presenting with symptoms such as cough, dyspnea, and hemoptysis. However, intracardiac extension of SCC is a rare phenomenon. This is a case of a 51-year-old male with SCC infiltrating the left atrium, manifesting primarily as acute hemoptysis and one month of weight loss, vague chest pain, and increasing shortness of breath. This case underscores the importance of considering unusual presentations of SCC.

PRESENTATION

The patient, a 51-year-old male with a medical history significant for non-insulin dependent type 2 diabetes and hypertension presented to the hospital with a chief complaint of one night of hemoptysis. Further investigation revealed a 10-pound weight loss over the preceding month, limited caloric intake, vague chest pain, and increasing shortness of breath. Initial imaging showed a **12x10x13 cm mediastinal mass extending into the left upper lobe, left mainstem bronchus, and the left atrium**, raising concerns for primary malignancy. Subsequent echocardiography confirmed a **lobular left atrial mass with prolapse into the left ventricle during diastole**. Imaging studies from two years prior were unremarkable.

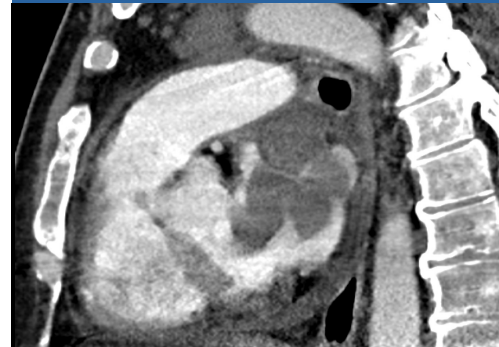
HOSPITAL COURSE

The patient underwent bronchoscopy with cryotherapy and transesophageal echocardiography, which confirmed the intracardiac extension of the tumor. Due to the extent of the mass and its infiltration into critical cardiac structures, surgical resection was deemed unfeasible. Pathological analysis revealed invasive, poorly differentiated non-small cell carcinoma, favoring **squamous cell histology**. The patient was initiated on a chemotherapy regimen comprising pembrolizumab, paclitaxel, and carboplatin, alongside palliative radiation therapy to alleviate airway obstruction.

HOSPITAL READMISSION

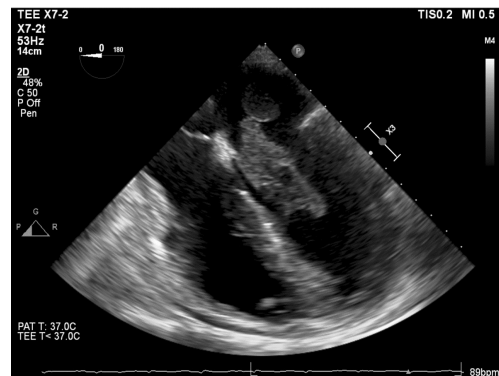
Despite initial stabilization and treatment, the patient experienced a recurrence of respiratory distress necessitating hospital readmission two weeks post-discharge. Evaluation revealed a moderate-sized pericardial effusion with concern for tamponade, compounded by bilateral airway compression from mass effect. Interventional measures, including Y tracheal/bronchial stent placement, were undertaken to alleviate airway compromise and stabilize the patient's condition. Following successful intervention, the patient demonstrated clinical improvement and was discharged after a brief hospital stay. PET scan and brain MRI are currently pending.

IMAGING



CTA chest with contrast:

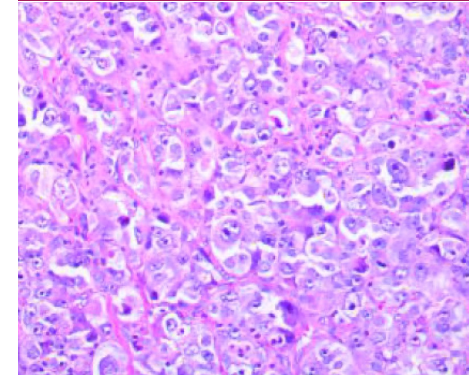
Picture shows a sagittal view of a large lobulated mediastinal mass penetrating the myocardium and occupying a significant portion of the left atrium.



Transesophageal echocardiography (TEE):

Picture demonstrates a large tumor thrombus originating in the left atrium with prolapse into the left ventricle during diastole.

PATHOLOGY



Invasive, poorly differentiated non-small cell carcinoma, favoring squamous cell carcinoma

Positive for high molecular weight cytokeratin, CK5/6 (focal), p40 (focal), and p63 (focal)

Negative for pancytokeratin, CK7, CK20, TTF1, and Napsin A

DISCUSSION

- The literature search revealed scarce reports of squamous cell lung carcinoma with extension into the left atrium. This underscores the rarity and clinical significance of such cases, as **SCC is not typically associated with intracardiac extension compared to other NSCLC subtypes**.
- Our case contributes to the limited body of evidence regarding SCC with left atrial invasion, providing valuable insights into its clinical presentation, diagnostic challenges, and management considerations. Given the rarity of this condition, each reported case adds to our understanding of the disease spectrum and helps guide clinicians in the optimal management of similar cases in the future.

CONCLUSION

While squamous cell lung carcinoma with extension into the left atrium remains a rare entity, clinicians should maintain a high index of suspicion for intracardiac involvement in patients presenting with SCC and cardiac symptoms. Further research and reporting of similar cases are warranted to enhance our understanding of the natural history, optimal diagnostic strategies, and treatment outcomes in this subset of patients.

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