

Endobronchial Squamous Cell Carcinoma Presenting as Neck and Mediastinal Abscess

- **Jacques du Passage** (LSUHSC School of Medicine)
- Luke Yesbeck (LSUHSC Department of Medicine)
- Allison Derise (LSUHSC Department of Medicine)
- Allison Pinner (LSUHSC Department of Medicine)

Case Presentation

A 54-year-old man with history of hypertension, seizures, and smoking (65 pack-years) presented with a one-week history of a painful left-sided neck and chest wall mass. Associated symptoms included dizziness, weakness, exertional dyspnea, cough, and melena for seven days. On admission he was afebrile, normotensive, and in no acute distress. Physical exam was notable for an erythematous, fluctuant mass extending from the left mandible to the ipsilateral neck and chest, with diffuse inspiratory and expiratory rhonchi and crackles at the left lung base. Laboratory studies revealed normocytic anemia (hemoglobin of 5.4 g/dl), thrombocytosis ($849 \times 10^3/\mu\text{l}$), and hyponatremia (128 mmol/l). Lactate was within normal limits. Contrast enhanced CT of the chest revealed a 7.8 x 3.7 cm rim-enhancing fluid collection with internal gas extending from left sternocleidomastoid into the anterior mediastinum and chest wall contiguous with a thick-walled 6.4 cm cavitory lesion in the left upper lobe of the lung. A 1.8 cm left hilar mass with peripheral cystic bronchiectasis was concerning for malignancy, and osseous erosion of the first costomanubrial joint raised suspicion for osteomyelitis. The patient was started on broad spectrum antibiotics that were quickly deescalated to cefazolin once abscess cultures grew methicillin-sensitive *Staphylococcus aureus* (MSSA). Bronchoscopy revealed an endobronchial mass found to be moderately differentiated squamous cell carcinoma, clinical stage IIIA. He was discharged in stable condition with close multidisciplinary follow up with oncology, pulmonology, and infectious disease, with a plan to start 6 weeks of cefazolin treatment followed by chemotherapy and radiation.

Discussion

Lung cancer is the second most common malignancy and leading cause of cancer-related mortality in the US [1], with squamous cell carcinoma (SCC) accounting for 30% of non-small cell lung cancers (NSCLC)[2]. While only approximately 5% of primary lung neoplasms involve the chest wall [3], the presence of chest wall erosion can portend poorer prognoses [4]. This patient's presentation illustrates the diagnostic complexity when malignancy is obscured by superinfection. His initial presentation with soft tissue abscess and cavitory lung lesion suggested infectious etiologies including necrotizing pneumonia and tuberculosis. However, the additional imaging findings of hilar mass and osseous involvement, along with the patient's significant tobacco history, warranted bronchoscopic evaluation despite apparent infectious features. Management required multidisciplinary coordination between infectious disease, pulmonology, oncology, and the medicine team to address active infection, immediate clinical stabilization, and subsequent treatment. This case underscores the importance of maintaining a high index of suspicion for malignancy in patients with atypical or aggressive infections, particularly in the setting of imaging findings suggestive of structural invasion.

References

1. Siegel RL, Kratzer TB, Giaquinto AN, Sung H, Jemal A. Cancer statistics, 2025. *CA Cancer J Clin*. 2025 Jan-Feb;75(1):10-45. doi: 10.3322/caac.21871. Epub 2025 Jan 16. PMID: 39817679; PMCID: PMC11745215.
2. Sabbula, B. R. (2024, February 14). *Squamous cell lung cancer*. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK564510/>
3. Filosso PL, Sandri A, Guerrera F, Solidoro P, Bora G, Lyberis P, Ruffini E, Oliaro A. Primary lung tumors invading the chest wall. *J Thorac Dis*. 2016 Nov;8(Suppl 11):S855-S862. doi: 10.21037/jtd.2016.05.51. PMID: 27942407; PMCID: PMC5124598.
4. Rivera MP, Mehta AC, Wahidi MM. Establishing the diagnosis of lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2013 May;143(5 Suppl):e142S-e165S. doi: 10.1378/chest.12-2353. PMID: 23649436.