

Adenocarcinoma of the Lung- An Unusual Presentation

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INTRODUCTION

Adenocarcinoma is the most common NSCLC and accounts for almost all lung cancer diagnoses in nonsmokers.¹⁻² The most frequent location of adenocarcinoma is in the peripheral aspects of the lung parenchyma as a solitary nodule or mass.² Most people diagnosed with lung cancer are 65 or older; a very small number of people diagnosed are younger than 45, with the average age of diagnosis of about 71.²

CASE REPORT

We present a unique case of 34 year old male with no significant past medical history who was a lifelong nonsmoker, who initially presented to an urgent care with shortness of breath and right lower extremity swelling. He was sent by EMS to the hospital for further evaluation and management of a presumed DVT and pulmonary embolism. CTA Chest confirmed a left segmental pulmonary embolism, but was also notable for nearly completely opacified right lung with collapse (Figure 2). He was admitted and started on a heparin infusion and empiric antibiotics for community acquired pneumonia.

Clinically, the patient was not improving, and was requiring 4L of oxygen at rest and 8L with exertion. Interval chest x-rays demonstrated no improvement in the right lung infiltrate (Figure 1). Pulmonology was consulted and performed a bronchoscopy with biopsy. The transbronchial biopsy revealed invasive moderate to poorly differentiated adenocarcinoma of the right lung, consistent with lung primary by immunohistochemistry. No endobronchial lesions were noted on bronchoscopy examination.

As per guidelines, immunohistopathology testing for epidermal growth factor receptor (EGFR) mutation, anaplastic lymphoma kinase receptor tyrosine kinase (ALK) translocation, and ROS proto-oncogene 1 receptor tyrosine kinase (ROS1) translocation was performed, showing that his lung cancer was ALK positive, EGFR negative, ROS1 negative, and BRAF negative. Of note, The ALK gene rearrangement is consistent with the history of a nonsmoker.²

Cardiothoracic surgery was consulted and performed endobronchial ultrasound with biopsy that revealed extension of adenocarcinoma to left lung lymph node, therefore, he was no longer considered for treatment with right sided pneumonectomy as his lung cancer was suggested to be at least stage IIIB. Oncology was also consulted, and the patient was started on chemotherapy with carboplatin and pemetrexed in the hospital. His oxygenation improved and he was discharged home with 4L oxygen via nasal cannula, with plans for continuation of chemotherapy.

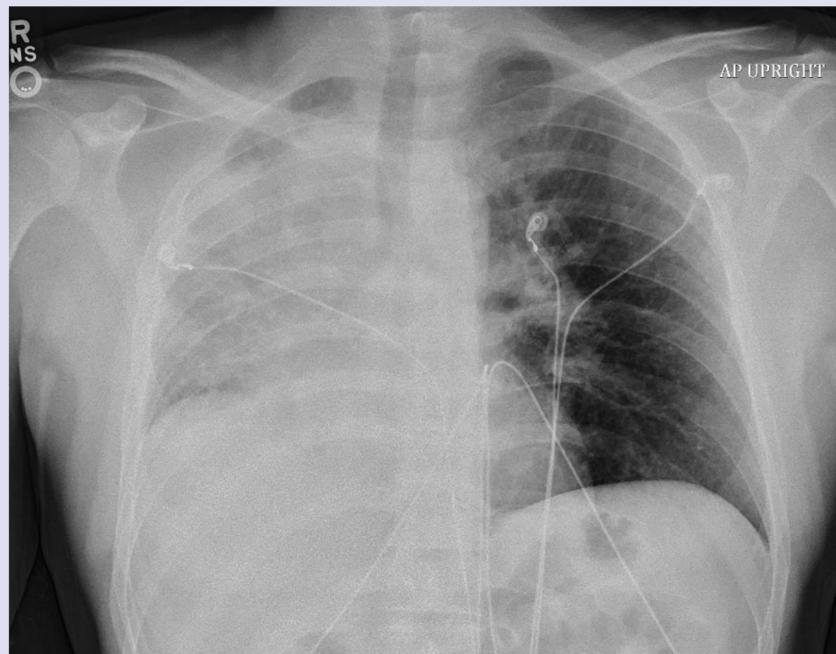


Figure 1: CXR demonstrating severe right upper lobe consolidative opacity with lung volume loss.



Figure 2: CTA with multiple right upper and lower lobar and segmental pulmonary emboli. Dense consolidation within right lung with surrounding ground-glass attenuation.

CONCLUSION

Although not a common initial presentation of lung cancer, unprovoked pulmonary embolism and/or DVT can present as an early complication of lung adenocarcinoma, as demonstrated in our case. Not only is the age of onset in this case rare, but the imaging was also extremely uncommon.

This patient's case, along with two similar case reports, represent relatively young patients with an unprovoked PE, who are subsequently diagnosed with lung adenocarcinoma.⁴⁻⁵ However, none were as young as our patient, and both had a history of tobacco use. We emphasize the importance of a thorough investigation for the underlying etiology in cases of unprovoked pulmonary embolism, as well as in cases of suspected pneumonia with concerning features on imaging.

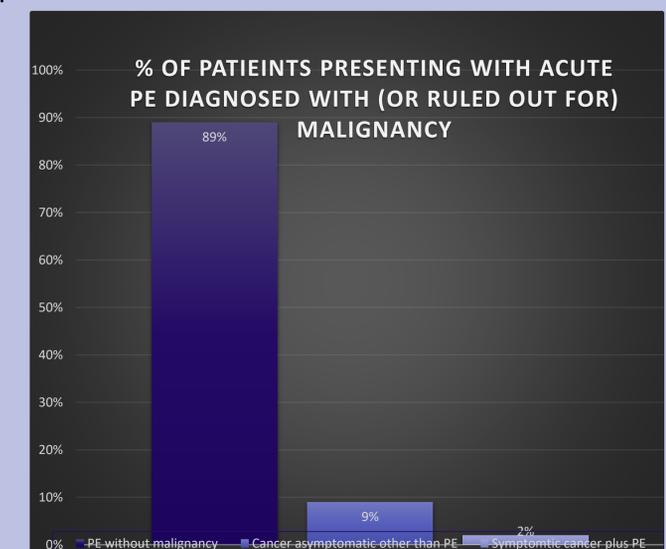


Figure 3: Evaluation of occult malignancy in 78 patients presenting with acute PE³

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