

Atypical Presentation of Adenocarcinoma: A Case Review & Report

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Background

Adenocarcinoma of the lung represents approximately 1/2 of all lung cancers globally. As a peripheral tumor, its incidence increased with the introduction of low tar filter cigarettes in the 1960s. The presence of neoplastic gland formation, pneumocyte marker expression (TTF-1 +/- napsin), or intracytoplasmic mucin serves to histologically diagnose adenocarcinoma. The typical radiographic feature appears as a solitary pulmonary nodule in the periphery of the lung. This case report will highlight an atypical radiographic presentation of lung adenocarcinoma.

Case Presentation

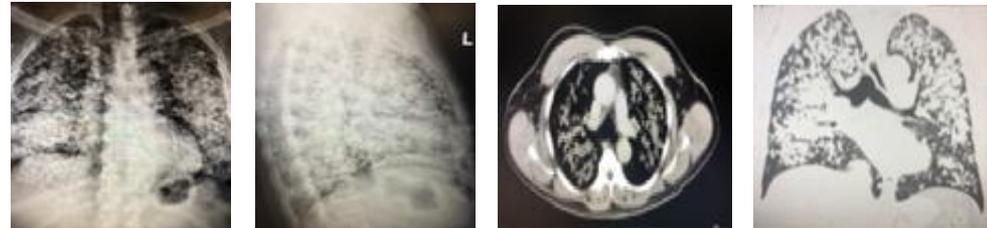
A 62 year old male with a past medical history of HTN presents from home for evaluation of hypoxia. Patient states that 1 week prior, while fixing a hotel's air conditioning unit's filter, he developed a productive cough with yellowish sputum and nasal congestion. He also reported subjective fevers, dyspnea on exertion, and nausea. Patient subsequently presented to his PCP for evaluation and found to have oxygen saturation of 84% on room air. He was then advised to go to the ER for further medical evaluation. He denies other GI or GU symptoms. He denies a history of asthma, allergies, TB, HIV, or tobacco/vaping/recreational drug use. He denies recent travel (but moved to the US from Jamaica three years prior) or sick contacts.

Blood work revealed an eosinophils number of 1.4 (H). A chest x-ray on presentation showed innumerable bilateral pulmonary nodules (image 1 & 2). Chest CT with IV contrast showed extensive solid nodularity and confluent areas of consolidation throughout both lungs as well as rib lesions; which these findings were concerning for metastasis (image 3 & 4).

A right-sided bronchoscopy with biopsy was performed and revealed friable bronchial mucosa; but no endobronchial lesions or secretions. Transbronchial biopsies of the right middle lobe were obtained. Cytology revealed malignant cells. Immunochemical staining profile was consistent with a non-small cell pulmonary adenocarcinoma (TTF-1 positive, Synaptophysin negative, Chromogranin A negative). Therapeutic markers include PD-L1 Lung 1-5%, ALK negative, EGFR negative, and KRAS Negative.

On discharge, the patient was advised to follow up with hematology/oncology as an outpatient to discuss management options and scheduled for MRI of the brain to rule out brain metastasis. Patient was unfortunately lost to follow up.

Results & Imaging



Discussion

As a peripheral tumor, adenocarcinoma accounts for the majority of lung cancer cases; and typically presents with cough and dyspnea. Most specific symptom is hemoptysis. Surveillance is key for early diagnosis and preventing poor prognosis. Typically, this form of lung cancer bro is solid nodules that unilaterally the periphery of the lung; which is seen on imaging. Atypical radiographic features include diffuse interlobar bilateral pulmonary nodules; similar to what was seen by the patient described in this case report.

Additional atypical findings include eosinophilia; which was evident on initial evaluation. Traditionally, the presence of eosinophils in peripheral blood results from allergy reaction, parasitic infection, eosinophilic leukaemia, and hypereosinophilic syndrome. However, the occurrence of eosinophilia in cancer patients is low. Moreover, the development of eosinophilia within solid tumors is a rare manifestation, accounting for ~1% of all cancer patients. The clinical significance of eosinophilia in cancer patients is not fully understood. Multiple studies suggest that paraneoplastic eosinophilia may reflect a more extensive disease process with a poor prognosis. However, early detection of lung cancer in the setting of eosinophilia provides promising opportunities for therapy; including the initiation of corticosteroid treatment to prevent organ damage.

References:

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