



# ADENOCARCINOMA OF THE LUNGS: MAKING THE DIAGNOSIS IN A WIDE DIFFERENTIAL

Asad Qasim DO<sup>1</sup>, Leyland A. Robinson DO<sup>1</sup>

1. Department of Internal Medicine, Philadelphia College of Osteopathic Medicine, Philadelphia, Pa

## Introduction

62 year old Jamaican male with past medical history of hypertension who presented from home with a productive cough and shortness of breath. He states initially started to develop a productive cough after working at the Hilton Hotel on their air conditioning system about one week ago. He complains of increased shortness of breath with exertion and fluctuating fever. Patient had moved to the United States three years ago and states he has done random handyman work all his life. He had mentioned some of his coworkers having also complained of similar symptoms but months previously. He also complained of the poor conditions some this job and previous jobs have been for ventilation. The patient went to his primary care physician for further evaluation of his symptoms where he was found to be hypoxic with oxygen saturation of 84% while on room air and advised to go to the emergency room. He denied any chills, weight changes, chest pain, heart palpitations, hemoptysis, nausea, vomiting, diarrhea, hematochezia, melena, dysuria, hematuria, rashes, joint pain, HIV exposure, Tuberculosis exposure, previous incarceration, or recent travel.

Allergies: Nifedipine (unknown reaction)

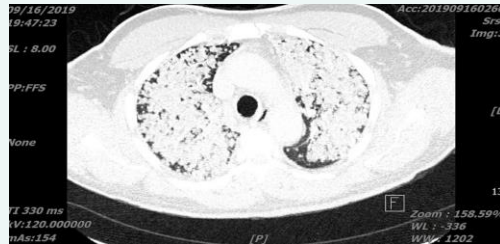
Meds: Aspirin 81mg, Carvedilol 25mg, HCTZ 12.5mg, Losartan 100mg

Surgical Hx: None

Family History: Unknown

Social: Smoking Never, Drinking Occasional, Illicit Drugs Never

Occupation: Maintenance



## Hospital Course

Patient initially presented to RMH on 09/16/19. Patient was placed on 3 L of oxygen nasal cannula and saturating at 95%. Initial chest x-ray showed innumerable bilateral pulmonary nodules, no pleural effusion or pneumothorax, cardiomeastinal silhouette and osseous structure were within normal limits. A CT scan of the chest with contrast was ordered and showed extensive solid nodularity and confluent areas of consolidation throughout both lungs with relative sparing of deep costophrenic angles, consolidative masses noted in the right lower lobe and bilateral upper lobes. CT scan was also notable for scattered lytic lesions throughout thoracic vertebral bodies. There was concern for tuberculosis and the patient was placed in an airborne negative pressure room. Sputum cultures for acid fast bacilli were ordered.

After three AFB sputum cultures came back negative, the diagnosis of tuberculosis diminished. We scheduled a right sided bronchoscopy with biopsy for 09/19/19. Biopsies were sent for ANA, ANCA, and cytology. Patient was given 1 g of Solu-medrol and started on Solu-medrol 60 mg every six hours. Infectious disease was consulted for input and recommended continued observation off of antibiotics. Orthopedics was consulted for possible bone biopsies of lytic lesions. Orthopedics recommended MRI and IR consult for bone biopsies.

The patient continued to need oxygen and was saturating at 90% on room air and 85% with exertion. A consideration for home health care with oxygen was discussed. The patient's cytology returned and revealed malignant cells. Staining shows a non-small cell pulmonary adenocarcinoma. A CT of abdomen shows extensive lung nodules and bilateral rib lesions consistent with metastatic disease; no primary malignancy or metastatic disease seen in the abdomen or pelvis. Patient CEA was 565.5, CA19-9 6, and LDH 537. Hematology/Oncology was consulted and a MRI of head for possible metastasis brain ordered. MRI could not be obtain as an inpatient and the patient was discharged to obtain the MRI as an outpatient and asked to follow up with his hematologist/oncologist



## Discussion/Conclusion

This patient's history and initial results opened a wide differential of pathology - eosinophilic pneumonia, pneumoconiosis, infectious disease, and neoplastic processes. Several days were spent ruling out tuberculosis with AFB cultures. Bone biopsy although ordered was found to be unnecessary. Multiple diagnostic modalities were utilized as well as several specialist's input; however, ultimately the most valuable study in establishing the diagnoses in this patient's case was bronchoscopy and fluid analysis.

Early bronchoscopy and fluid analysis is an effective means of discriminating the etiology of lung disease in a patient presenting with a differential that includes pneumoconiosis, infectious diseases endemic to other countries, autoimmune disease, and neoplastic processes. Adenocarcinoma should be considered whenever lobular opacities are identified on chest x-ray.