BACKGROUND

- A lung cavity, as defined by the Fleischner Society, is a gas-filled space, seen as a lucency or low-attenuation area, within a nodule, mass, or area of parenchymal consolidation.
- Underlying etiologies are typically classified as infectious and non-infectious.
- SARS-CoV-2 (COVID-19) pneumonia typically presents with ground-glass and consolidative pulmonary opacities, though cavitary lesions have been reported in severe disease.
- In those cavities persisting beyond 12 weeks, an underlying malignancy is a worrisome concern. The most common type of primary cavitary lung cancer is squamous cell carcinoma, in fact primary pulmonary adenocarcinomas are unlikely to cavitate.
- We present a case of a 39-year-old female without underlying smoking history or prior personal or family history of malignancy who was found surprising to have a cavitating adenocarcinoma in the setting of COVID-19 Pneumonia.

CASE PRESENTATION

- 39 year old obese African American female with history of lifestyle controlled Type 2 Diabetes Mellitus, Hyperlipidemia and Hypertension.
- She presented to Vidant Medical Center with a four day history of productive cough (without hemoptysis), body aches, chills, and fatigue. She denied weight loss, night sweats or loss of appetite. On presentation she was afebrile and maintaining her oxygen saturation above 95% on room air.
- She was discharged with scheduled repeat CT imaging after 4 weeks and outpatient pulmonary follow-up.
- She eventually obtained repeat imaging approximately 3 months after initial presentation, which revealed persisting cavitary lesion and increasing mediastinal lymphadenopathy.
- Underwent Electromagnetic Navigational Bronchoscopy (ENB) with biopsy and fine needle aspiration of lymph nodes (stations 7 and 4R) via endobronchial ultrasound (EBUS).
- Biopsy results and fine needle aspiration of lymph nodes revealed adenocarcinoma with tumor cells being positive for TTF-1 and negative for CK20, CDX2, GATA3, PAX8 and Synaptophysin.

DISCUSSION

- Once mimickers have been ruled out, cavitary lesions are typically classified as infectious, autoimmune and malignant.
- They are atypical findings on CT imaging in patients with viral pneumonias, including SARS-CoV-2. Those cavities persisting beyond 12 weeks are typically classified as being chronic, with fungal infections and malignancy key concerns in these patients.
- In our case, the presence of intra-cavitary material was suggestive of an underlying fungal infection. However, features of this patient’s lung cavity which were also suggestive of a malignancy included wall thickness (>7mm), irregularity of the internal lumen and enlarging mediastinal lymphadenopathy, warranting a biopsy.
- Primary Pulmonary Adenocarcinomas are unlikely to cavitate, however when they do, they are usually found in males with significant smoking history, which makes our case unique.
- Management is per guidelines for Non-Small Cell Lung Cancer.

CONCLUSION

- Though an atypical presentation, Pulmonary Adenocarcinoma may present as a cavitary lesion, particularly in the presence of persisting or enlarging mediastinal lymphadenopathy.

References