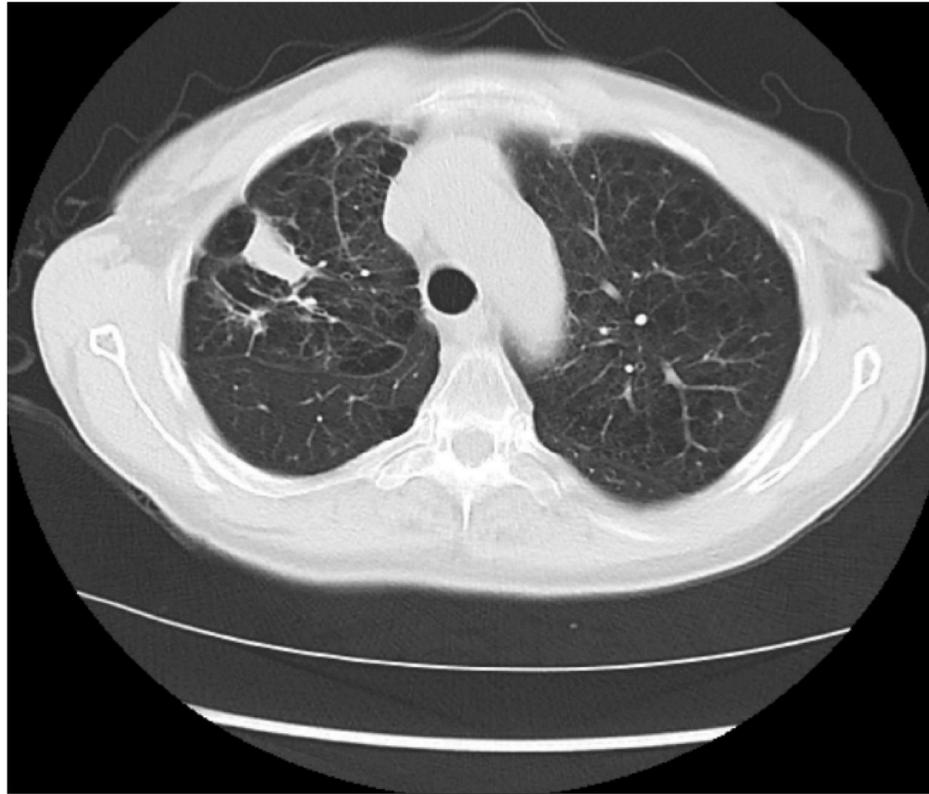


## INTRODUCTION

- Pulmonary necrobiotic nodules are relatively rare intrapulmonary manifestation seen in Crohn's disease and rheumatoid arthritis.
- Lung nodules in patients with RA are most commonly due to concomitant infection.
- Less common causes include malignancy and necrobiotic nodules.
- Lesions commonly occur in male smokers and are associated with inflammation.
- Nodules are often located in the periphery of middle and upper lung zones with subpleural distribution and asymptomatic, though can result in pneumothorax, pleural effusion, bronchopleural fistula, hemoptysis, and infection.

## CASE DESCRIPTION

- Patient is a 55-year-old female with a history of rheumatoid arthritis on long term prednisone who presented with increased pain, dyspnea, and cough for three weeks.
- Patient failed outpatient antibiotics for community acquired pneumonia.
- Differential included malignancy, tuberculosis, community acquired pneumonia, aspergillosis, other fungal pneumonia, and inflammatory process.
- Lab work and imaging consisting of CBC, CMP, CXR, CT-Chest with contrast, procalcitonin, Aspergillus antibodies, fungal antibody screen, and QuantiFERON TB gold were all obtained during hospitalization.



CT chest demonstrating cavitating mass in right upper lobe of the lung



Follow up PET scan that highlights mass decreased in size and decreased cavitation compared to prior

## RESULTS

- Pulmonary examination was unremarkable. She had no evidence of respiratory distress. Initial labs were unrevealing.
- Chest X-ray revealed patchy multifocal opacities in the right upper and left lower lobe. Patient was initially started on IV antibiotics and steroids.
- Chest CT revealed pleural-based cavitory mass/infiltrate in the right upper lung anterior laterally with two central cavities and moderate surrounding spiculation.
- Remaining studies were negative. Symptoms resolved during her hospital course and patient was discharged on home prednisone.
- Due to improvement of symptoms, patient declined biopsy at this time.
- Repeat chest CT and PET scan revealed decreased size with decreased cavitation of largest right upper lobe mass arguing towards inflammatory cause vs malignancy.

## CONCLUSION

Necrobiotic nodules should be considered in the differential of RA patients with pulmonary nodules. Rarely, it may even be a presenting symptom of rheumatoid arthritis. If possible, biopsy or repeat imaging should be obtained to exclude other etiologies including infection and malignancy.

## REFERENCES

- Lake, Fions R. "Overview of Lung Disease Associated with Rheumatoid Arthritis." *UpToDate*, 3 June 2019. [www.uptodate.com/contents/overview-of-lung-disease-associated-with-rheumatoid-arthritis?sectionName=RHEUMATOID LUNG NODULES&topicRef=7523&anchor=H16&source=see\\_link#H16](https://www.uptodate.com/contents/overview-of-lung-disease-associated-with-rheumatoid-arthritis?sectionName=RHEUMATOID%20LUNG%20NODULES&topicRef=7523&anchor=H16&source=see_link#H16).
- Koslow, M., Young, J.R., Yi, E.S. et al. Rheumatoid pulmonary nodules: clinical and imaging features compared with malignancy. *Eur Radiol* 29, 1684–1692 (2019). <https://doi.org/10.1007/s00330-018-5755-x>