

# CT guided biopsy of a lung mass negative for malignancy. When is it truly negative?

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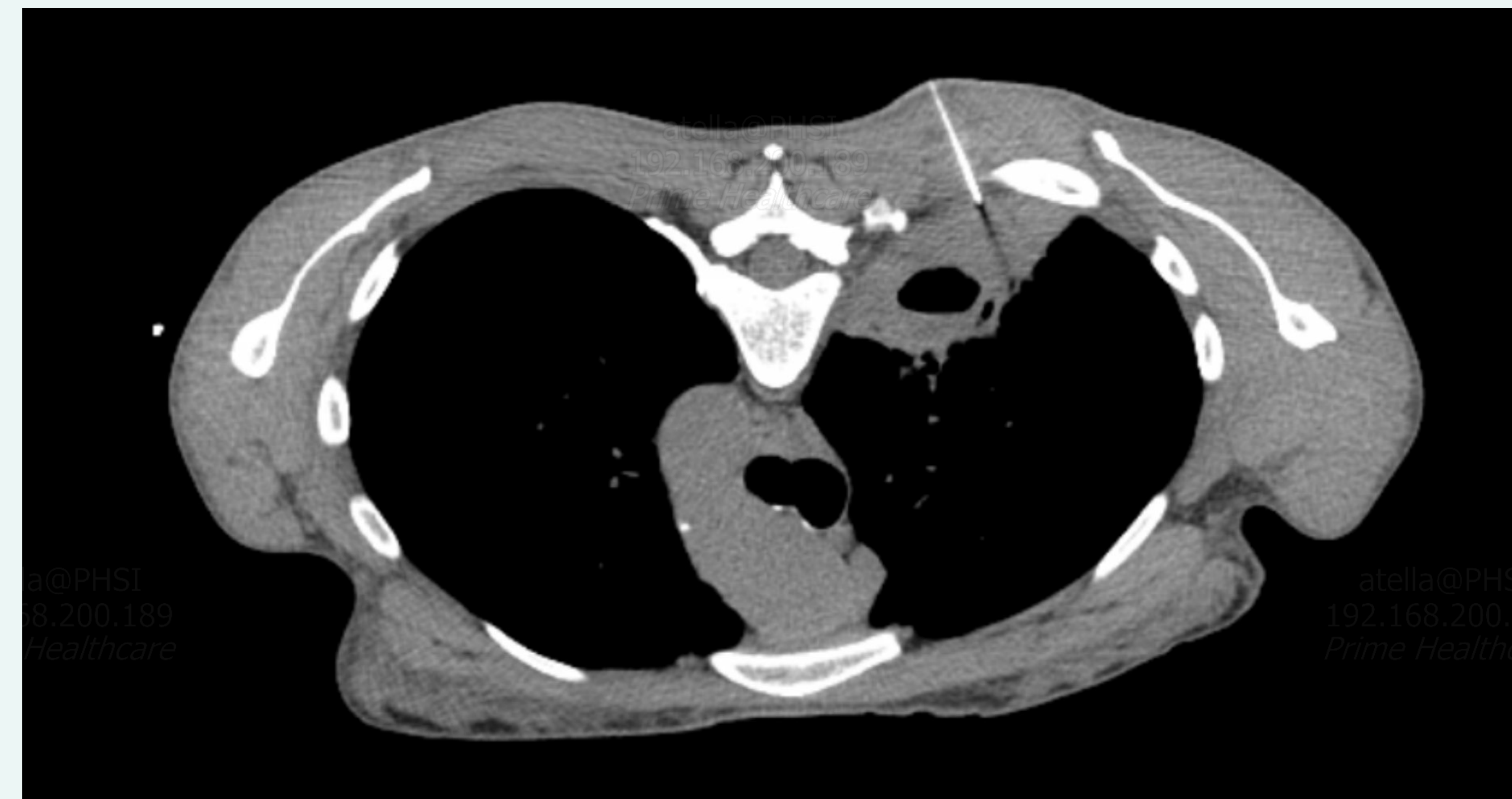
## INTRODUCTION

CT scan guided cutting needle biopsy by interventional radiology is the standard of care for patients with suspicious lung mass/nodules in the lungs. However, data from the studies performed have showed significant number of false negative results due to a number of factors leading to false reassurance of otherwise malignant lesions. We present a case report and data driven discussion for a patient who presented with a lung mass and was found to have benign result through CT-guided biopsy.

## CASE REPORT

49-year-old cachectic female was brought in with altered sensorium. Patient complained of cough with phlegm associated with 10 pounds weight loss in the past 3 weeks. She also had 12 pack years smoking history. Lungs were clear to auscultation. Initial labs were significant for an elevated white count of 16000, and calcium 9.0mg/dl. A CT scan showed a 6.1cm mass in the right upper lobe abutting the major fissure and posterior aspect of the pleura. Pulmonology was consulted and recommended a CT guided biopsy; 3 fragmented core biopsies resulted acute inflammation with intra-alveolar macrophages and interseptal histiocytes. Incidentally a hypervascular hepatic lesion was also noted on CT Chest. It was advised by pulmonology if liver lesion was not a solid mass it would be imperative to focus on the lung lesion and it could be followed up outpatient. Patient was discharged on antibiotics, and was lost to follow up outpatient for further scans.

## IMAGING



CT Abdomen demonstrating right upper lobe lesion with cavitation, with biopsy needle within the lesion



Hypervascular hepatic lesion seen on CT Chest

## DISCUSSION & CONCLUSION

CT guided biopsy is known as the procedure of choice as it is minimally invasive and has high diagnostic accuracy. However, the false negative results have been reported to be as high as 16% per Rui et al. [1] The negative predictive value has been reported to be almost 85% in separate study by Hui et al with cutting needle-based biopsy, granulomatous inflammation being the single most predictor of true negative result [2][3]. Sarcoidosis and infection are the most common presentation of granulomatous inflammation with organized infiltrate of macrophages, lymphocytes, epithelioid and giant cells [4]. CT scan is a reasonable follow up imaging for benign results. Unfortunately, the patient was lost to follow up and no further imaging was performed.

## REFERENCES

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