

INTRODUCTION

- Granulomatous diseases and lung cancer may produce overlapping clinical, computed tomography (CT), and FDG PET/CT findings, particularly in tuberculosis-endemic settings.
- This overlap may delay cancer diagnosis, create false reassurance after partial microbiologic confirmation, and expose patients to unnecessary invasive procedures.

OBJECTIVE

We present four patients with FDG-avid pulmonary lesions in a tuberculosis-endemic setting to identify recurrent diagnostic pitfalls

METHODS

DESIGN:

- Retrospective single-center
- Tertiary care center
- Bogotá, Colombia
- Descriptive retrospective case series

CASE SELECTION:

- Patients with FDG-avid pulmonary lesions in whom granulomatous disease (including tuberculosis) and lung cancer both entered the differential, and in whom imaging, microbiologic and pathologic findings were discordant

DATA REVIEWED:

- Clinical records
- CT and FDG PET/CT findings
- Microbiology (sputum and tissue PCR, cultures)
- Histopathology testing
- Molecular testing

ANALYSIS:

Qualitative synthesis of the four trajectories to identify recurrent diagnostic pitfalls; descriptive only, no statistical analysis was performed

DISCUSSION AND CONCLUSION

FIRST PITFALL:

- FDG avidity, irregular morphology, and interval growth do not reliably distinguish malignancy from granulomatous disease.
- FDG PET/CT specificity is reduced in tuberculosis-endemic settings due to uptake in granulomatous disease

SECOND PITFALL:

- Microbiologic confirmation of tuberculosis does not exclude concomitant lung cancer, particularly when symptoms persist or imaging remains discordant despite treatment

THIRD PITFALL:

- A single nondiagnostic biopsy may be misleading when sampling is nonrepresentative
- Persistent radiologic-pathologic discordance should prompt reconsideration and repeat tissue sampling.

Across all four cases, they reinforce the need to integrate imaging, pathology, microbiology, and longitudinal clinical evolution when evaluating suspicious pulmonary lesions in endemic settings.

REFERENCES & ACKNOWLEDGEMENTS

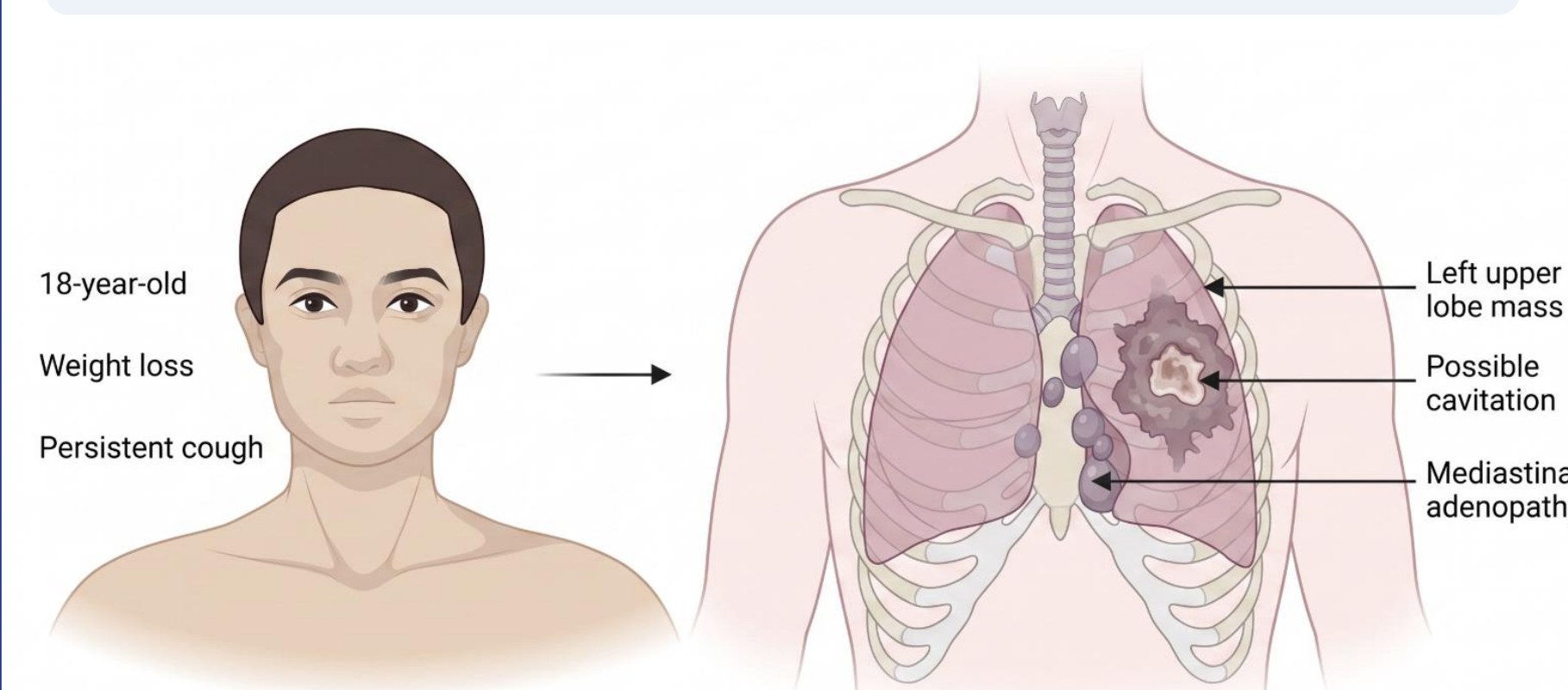
The authors thank Fundación Santa Fe de Bogotá and the multidisciplinary work of the department of Oncology, the department of Pathology, the department of Radiology and the Lung Cancer Center

No artificial intelligence tools were used in the development of the scientific content of this poster. Graphics were made with Biorender

RESULTS

These four cases span the full spectrum of **diagnostic pitfalls** in a TB-endemic setting: Cancer misread as infection, infection misread as cancer, and infection and cancer coexisting undetected by a single biopsy.

CLINICAL SCENARIO



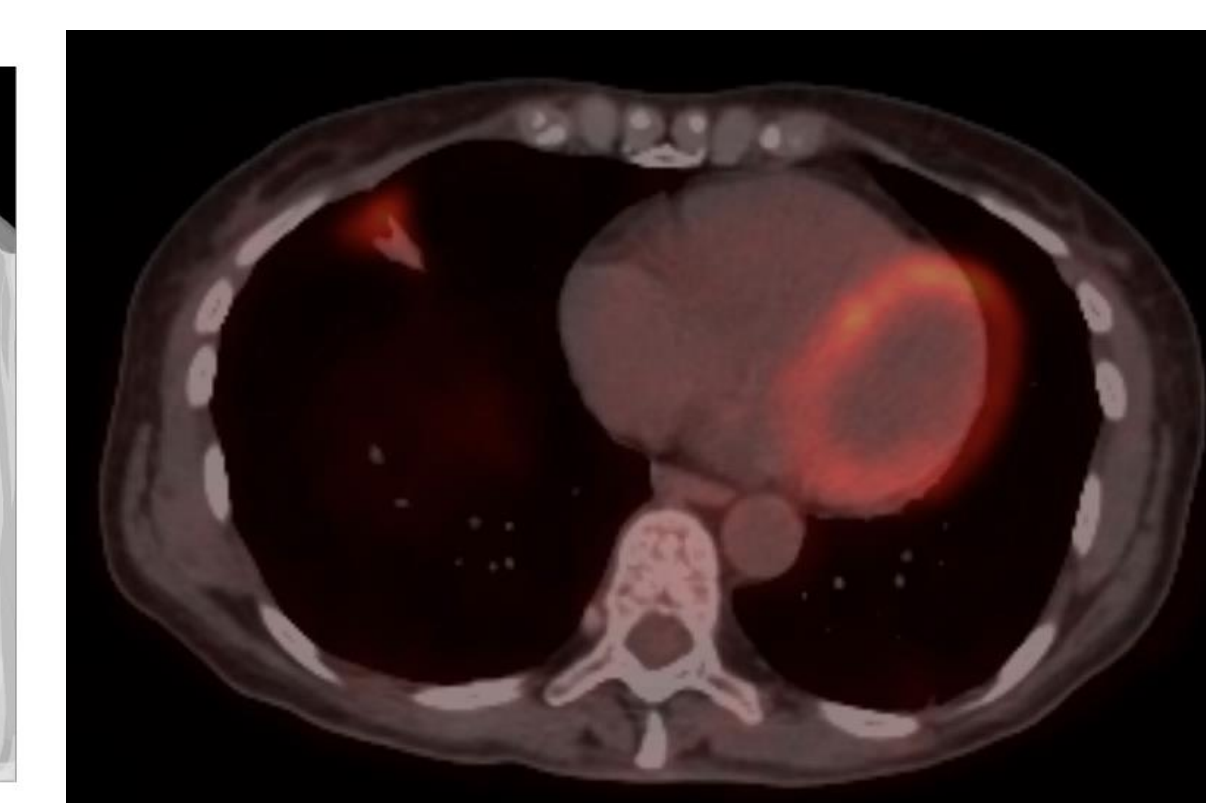
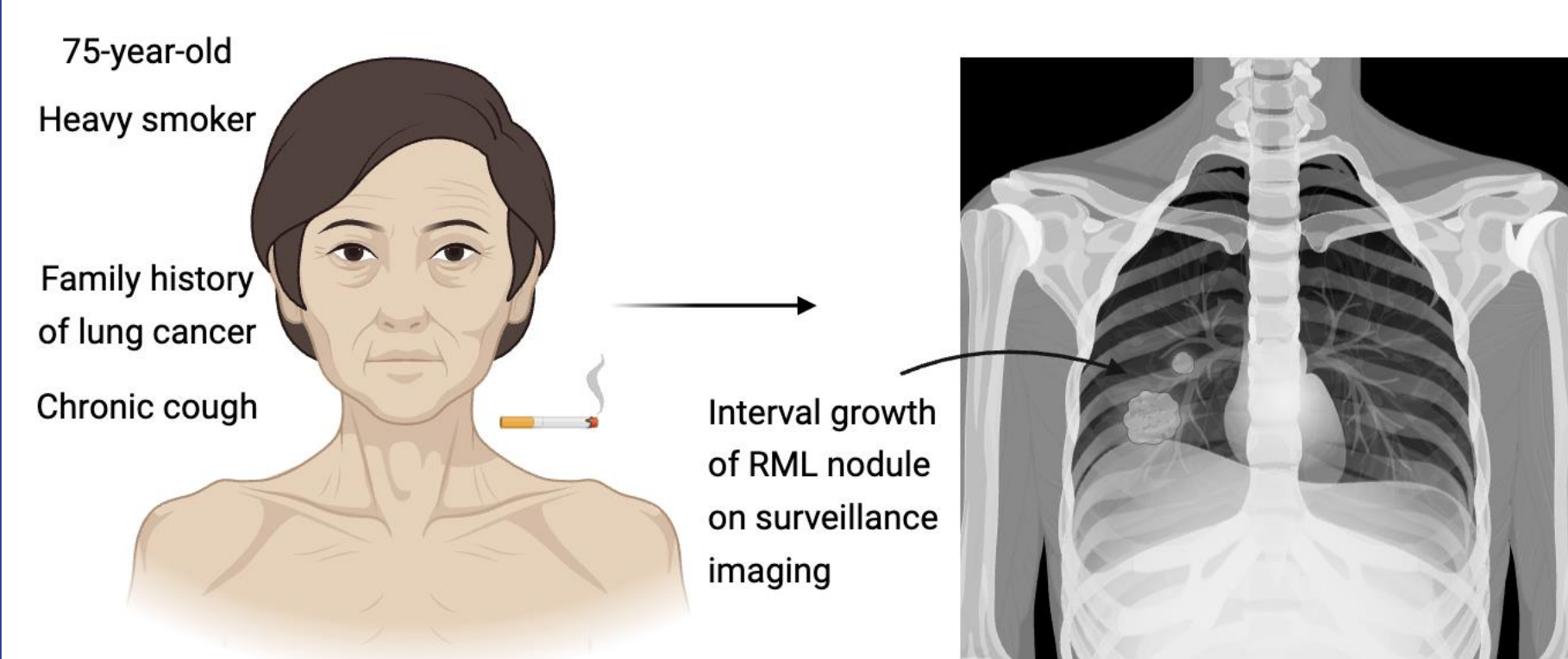
IMAGING



EVALUATION AND FINAL DIAGNOSIS

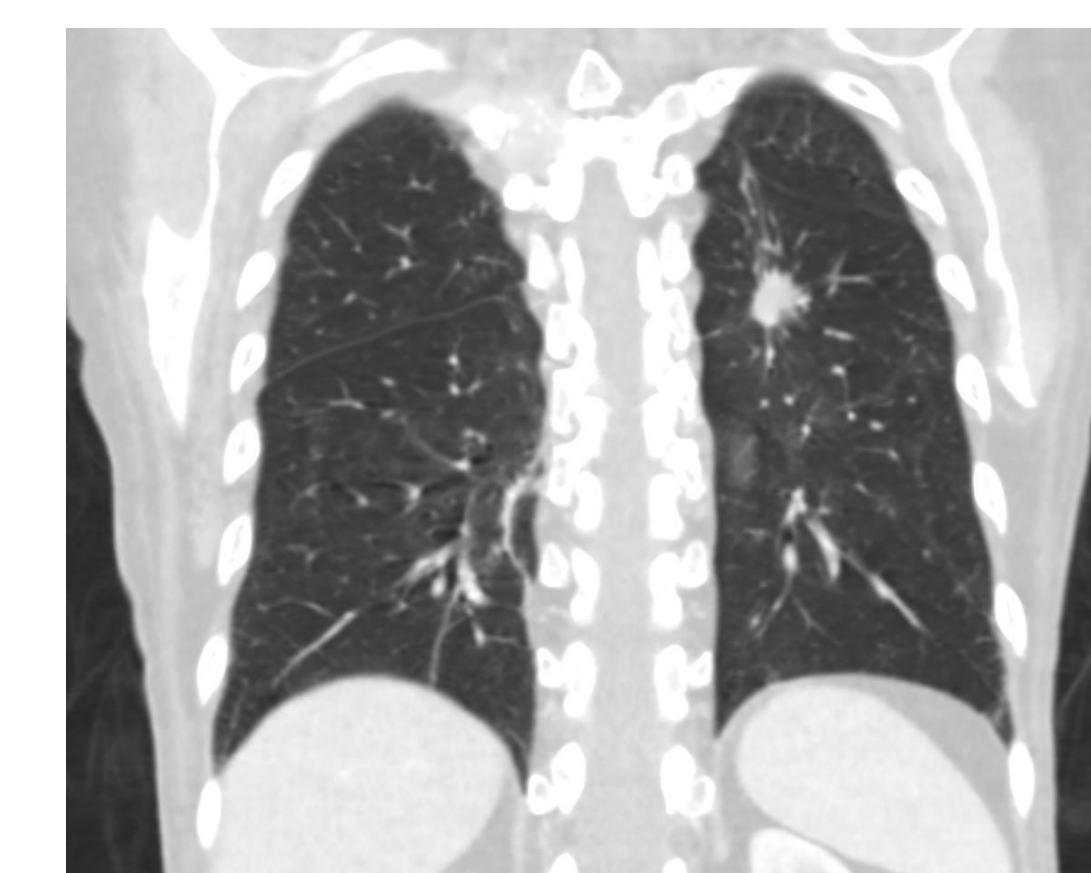
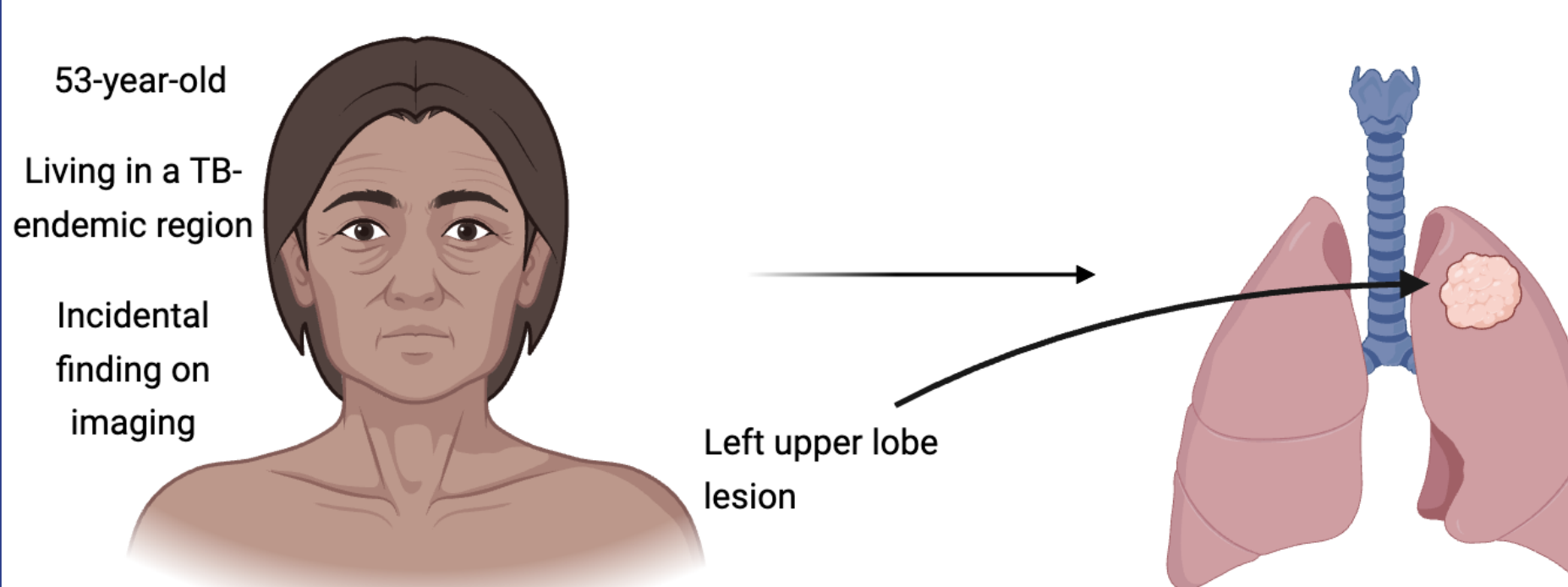
The initial differential diagnosis favored granulomatous infection, lymphoma, or sarcoma.

Surgical resection ultimately demonstrated non-small cell lung cancer, and final staging revealed disseminated stage IV disease.



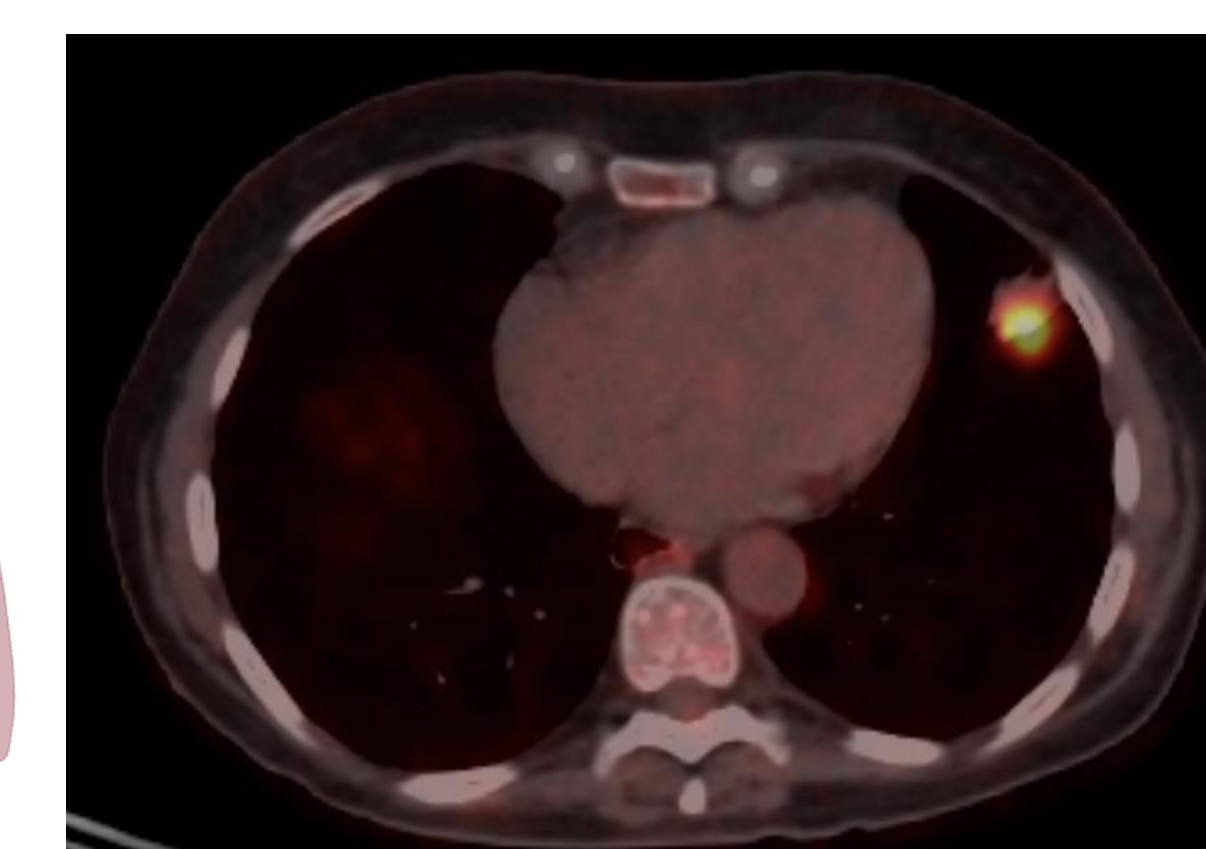
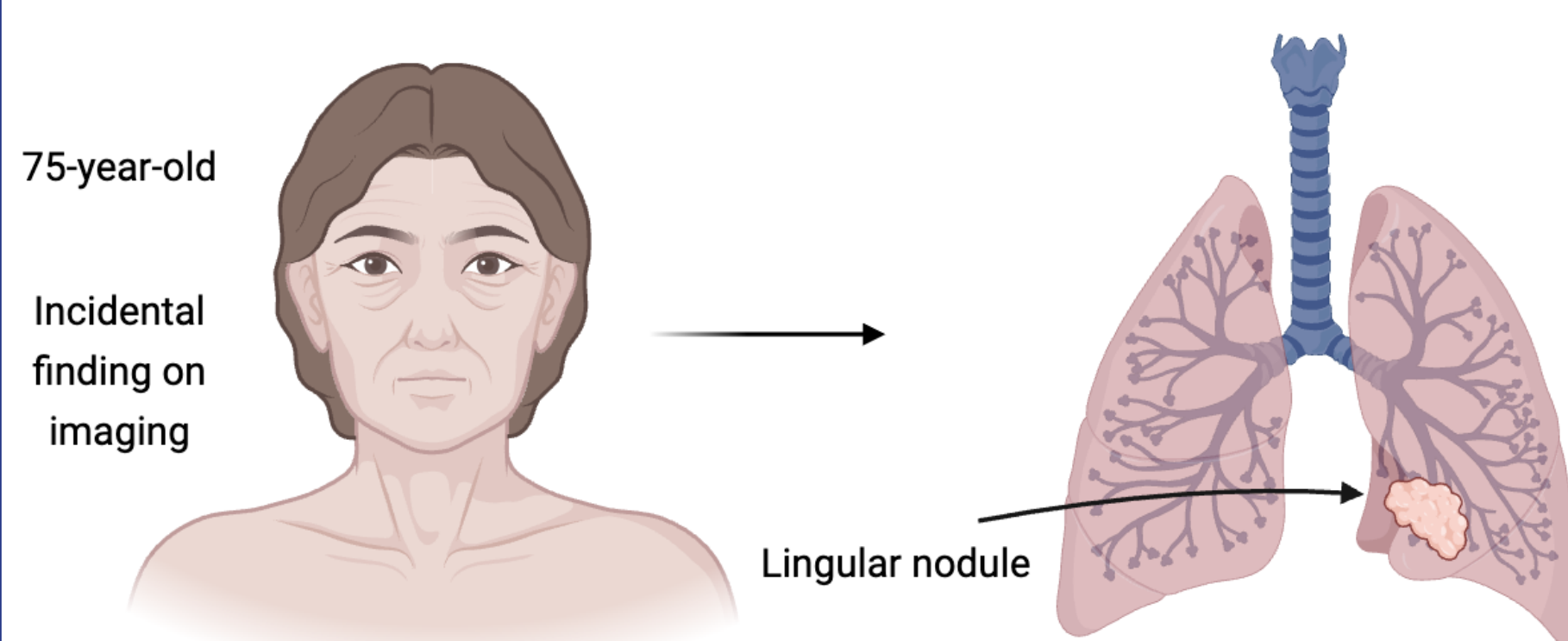
Thoracoscopic exploration and right middle lobectomy were performed because of concern for malignancy

Pathology revealed granulomatous inflammatory disease without malignancy.



Needle biopsy was negative for malignancy. Sputum PCR confirmed pulmonary tuberculosis

Despite treatment, imaging showed lesion progression. Further evaluation established metastatic pulmonary adenocarcinoma coexisting with tuberculosis



Percutaneous biopsy revealed necrotizing granulomatous inflammation without malignancy.

Molecular testing of tissue later detected *Mycobacterium tuberculosis*, confirming pulmonary tuberculosis.