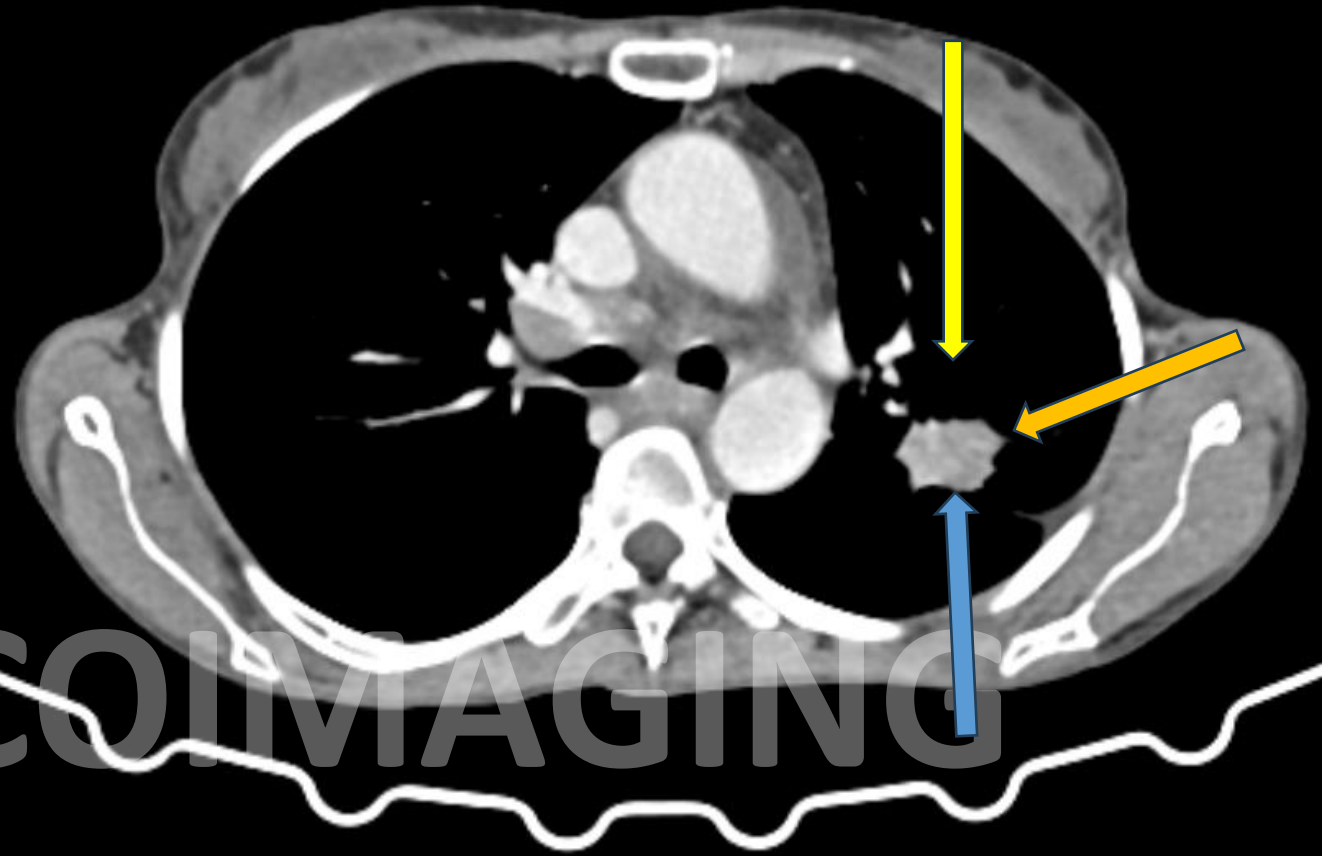
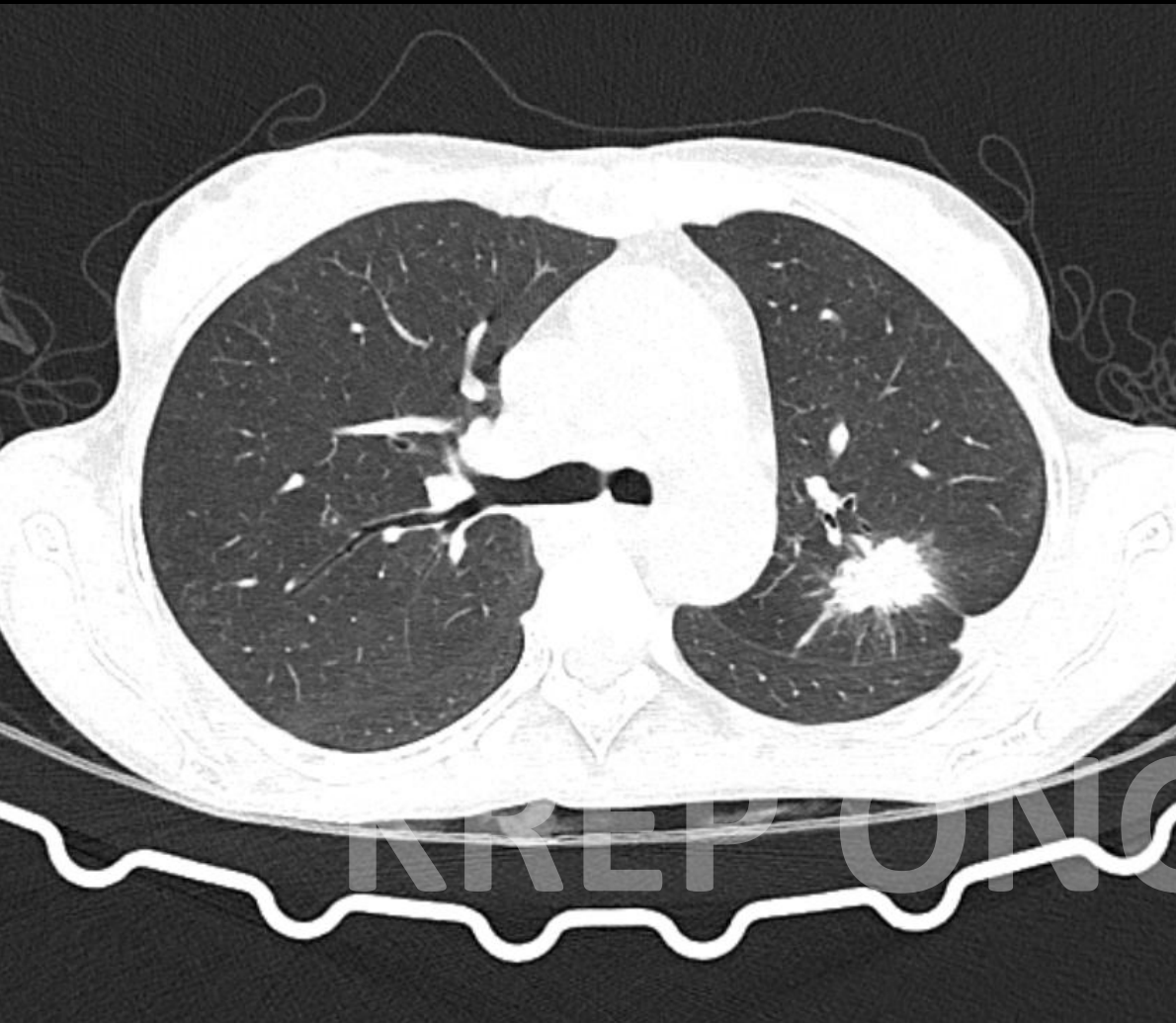




2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

2.9 x 2.5cm spiculated nodule in the left lung upper lobe



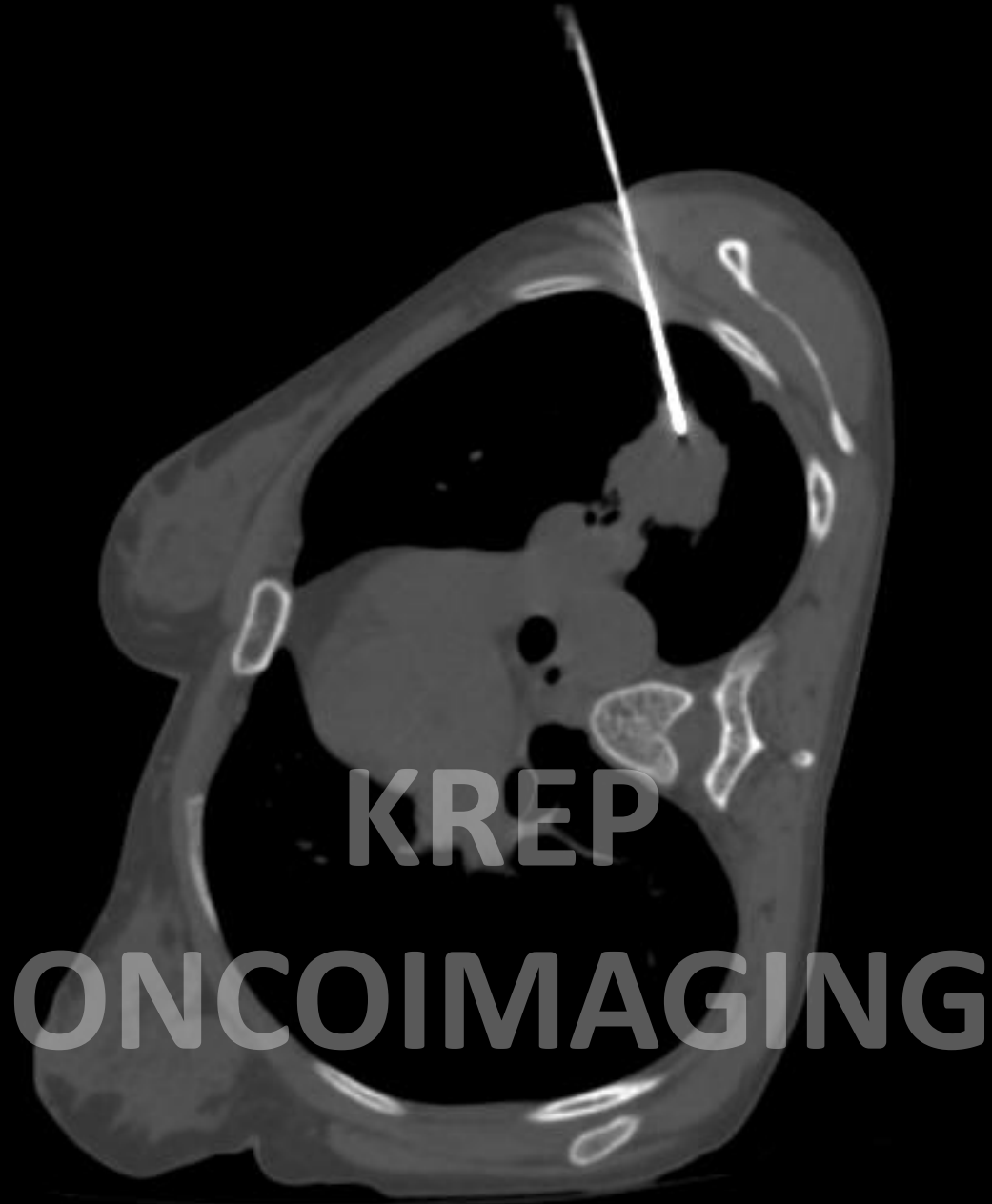
- 1. Suggest an appropriate biopsy approach for tissue diagnosis**
- 2. Discuss possible pitfalls specific to biopsy planning & interpretation**

Checklist

- Confirm patient details, request form, consent. Explain the procedure and risk of complications.
- Confirm the indication (site of biopsy, side, number etc)
- Review the clinical details (Sometimes sample in NS is needed for infection workup)
- Review the bleeding parameters.
- Secure an IV access.
- Keep the crashcart ready.
- Have a backup ready for high risk prone cases.

Suggest an appropriate biopsy approach for tissue diagnosis

- Goal: obtain representative diagnostic tissue (and sufficient material for molecular testing) while minimizing complications (bleeding, pneumothorax, upstaging/seeding).
- CT-guided percutaneous transthoracic core needle biopsy (PTNB) - preferred for this case.
- Rationale: The lesion is not entirely peripheral, and is not in direct pleural contact. We have to identify the safest shortest route.
- CT guidance allows precise planning to avoid ribs, scapula and large vessels, and to direct the trajectory to the solid part of the mass (avoid necrotic centre).



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- Entry route: Lateral approach provides the shortest path while avoiding the left oblique fissure.
- Why avoid transfissural? - passing the needle through a fissure increases pneumothorax/air leak risk and may reduce yield. It can upstage the disease.
- Coaxial technique & number of cores: use coaxial (18G) to obtain multiple cores with single pleural puncture; aim for 4-6 good cores as (HPE, IHC, molecular testing)
- In between the cores, coaxial must not move.
- After the biopsy needle is removed, rapid rollover should be performed with biopsy side down, it helps in natural tamponade and reduces complication risk.

Pitfalls specific to biopsy planning & interpretation:

False negatives due to sampling necrotic centre or fibrosis- Aim core to solid peripheral zone rather the central necrotic core. (Utilise PET CT if available, but always follow safety first approach)

Track seeding (rare): Needle tract seeding is rare but reported especially for subpleural tumours- keep in mind for planning and consent.

Complications mimicking disease progression- Post-biopsy inflammation/scar can create transient changes.

Do not confuse immediate post-procedure changes with tumour growth- correlate temporally.

Pneumothorax – It is a common complication, few times it may need a tube. Rapid roll over technique with biopsy side down reduces the risk.

Contributors

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