



2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

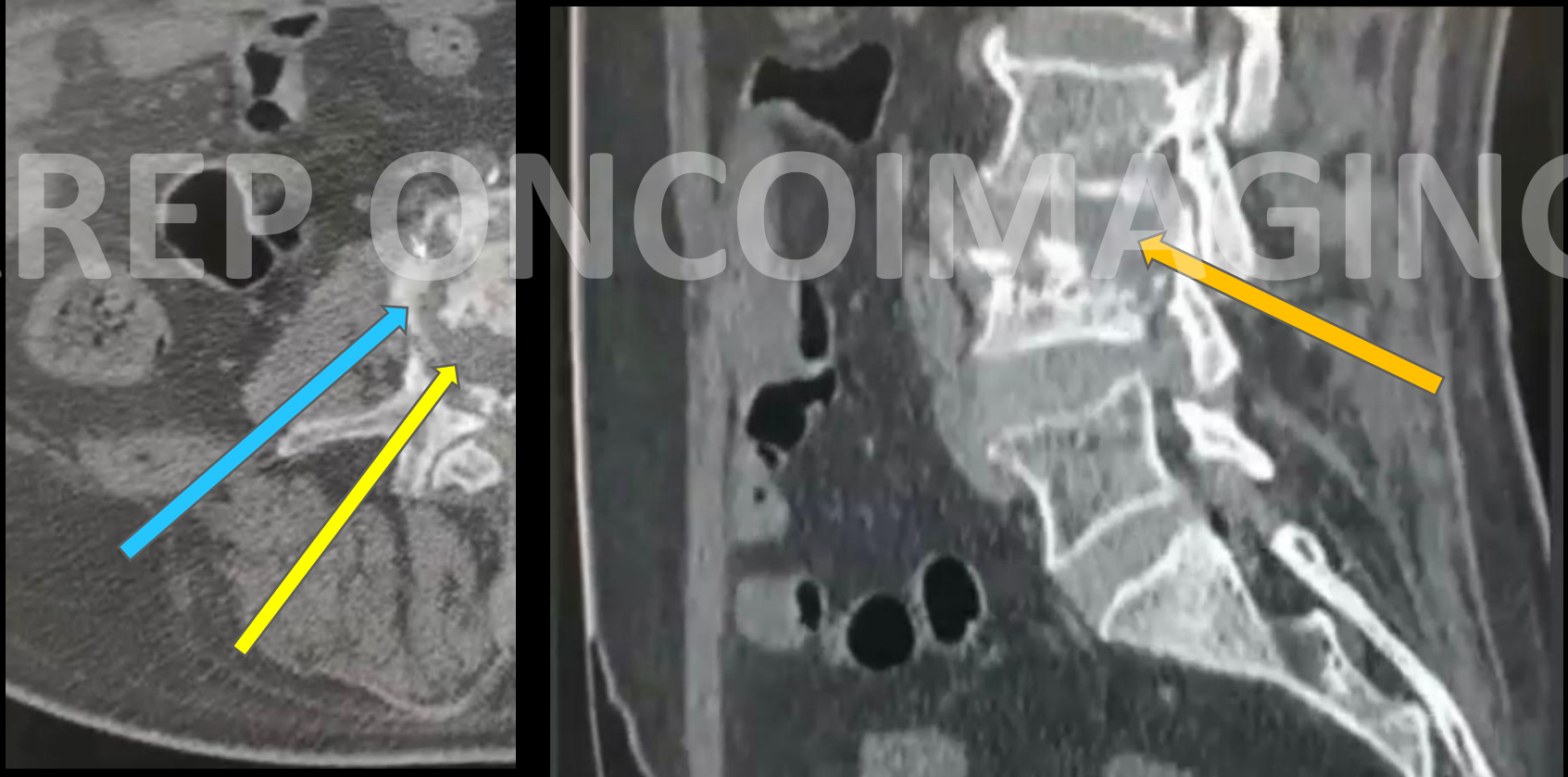
L4 vertebral fragmentation, sclerosis with destruction of disc - referred for CT Guided Biopsy



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 this case for infection workup)
- Review the bleeding parameters.
- Secure an IV access.
- Keep the crashcart ready.
- Have a backup ready for high risk prone cases.
- **Adequate understanding of the equipment is mandatory during the planning (knowing the gauge, length and mechanism). Planning in vertebral biopsies is crucial step.**

KREP ONCOIMAGING



Which route to choose?

- **Blue** – Posterolateral paraspinal route → higher risk of injury to nerve roots or paravertebral vessels.
- **Yellow** – Transpedicular route (preferred route) → Provides a safe bony path with minimal risk to the spinal canal or major vessels. (Partly fractured fragment with bony communication inferiorly)
- **Orange** – Transdiscal route → Risk of disc degeneration / infection (in uninfected) → Generally avoided to approach isolated vertebral lesions unless there is requirement to also sample disc itself. This requires reformatting in oblique plane and deciding the approach (the needle can be positioned through soft tissues and bone traversing may be avoided)



Understanding of equipment and available types of needles is required.

The bone biopsy needle (commonly Jamshidi) is advanced through the soft tissues and pedicle into the vertebral body under CT guidance.

Appropriate MPR planning has to be utilized. (Advancement up to pedicle has to be in alignment targeting the lesion/tissue, multiple instances of CT guidance may be utilized for safe and adequate positioning of needle)

A semi automatic Bx needle may be utilized in lytic / soft tissue area (a demo to check all the equipment lengths and steps prior to biopsy is helpful for planning).

Aspiration may also be performed.

Finally, another 1-1.5 cm of BMA needle can be advanced to get the bone core prior to sampling.

HPE REPORT:

Microscopy: Section studied from soft tissue and bone bits show mixed inflammatory infiltrate and few ill-defined granulomas comprising of epithelioid cells and lymphocytes. Foci of bony fragments also noted.

No evidence of malignancy

Stain for AFB - Negative

PAS stain - No fungal organism seen

Impression: Chronic Granulomatous Inflammation.

Contributors

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Feedbacks are most welcome and appreciated - drkashif1196@gmail.com