

This is a retrospective, single institution review of consecutive, image-guided, percutaneous biopsies for discitis-osteomyelitis in 66 patients that compares positive biopsy results of disc biopsies versus bone biopsies and concludes that disc biopsies are more likely to yield positive tissue cultures.

The writing is concise, and the authors come to a conclusion that could affect biopsy approach and yield for discitis-osteomyelitis patients. However, the study does not address important details that could impact this conclusion, including those regarding biopsy technique, specimens, imaging findings, and determination of targets.

Abstract:

- Consider using the terms “discitis-osteomyelitis” or “spondylodiscitis” and deleting “severe.”
- The study aim should be clarified. The authors evaluate disc versus bone. “Optimal tissue” can infer other targets (adjacent paravertebral soft tissues and abscesses) which are not evaluated here.

Introduction:

- The hypothesis is clearly stated.
- Consider adding when biopsy is needed.

Methods:

- Were there other exclusion criteria? (nondiagnostic biopsy, timing with respect to MRI/labs/antibiotics?)
- Please add procedure details: which systems and sizes were used, approach, number of proceduralists involved, and operator experience

Results:

More details would be helpful for:

- Clinical: CRP, blood culture results, specific length of antibiotic treatment (newer articles discuss 2-3 day cutoffs)
- Imaging: disc signal, endplate destruction, epidural enhancement (not just abscess), paravertebral abscess (not just abnormality which could include edema), levels.
- Specimens: number of specimens taken, quality of specimen (all diagnostic?), pathogens, and false pos/false neg.
- Antibiotic administration related to negative biopsies.

Discussion:

- How did operators choose disc vs bone? More details are needed.

Figures and Tables:

- Please consider using a fat suppressed fluid sensitive T2 sequence (STIR, T2 Fat Sat, Dixon) instead of T2
- Please add image descriptions (hypointense marrow on T1-weighted image, etc) to Figure.

-Please consider adding CT guided example.

Conclusion:

Agrees with the hypothesis.

References:

There are no referenced AJNR articles. Please consider reviewing:

- Yield of Image-Guided Needle Biopsy for Infectious Discitis: A Systematic Review and Meta-Analysis. A.L. McNamara, E.C. Dickerson, D.M. Gomez-Hassan, S.K. Cinti, A. Srinivasan
American Journal of Neuroradiology Oct 2017, 38 (10) 2021-2027; DOI:10.3174/ajnr.A5337

- Combination of Imaging Features and Clinical Biomarkers Predicts Positive Pathology and Microbiology Findings Suggestive of Spondylodiscitis in Patients Undergoing Image-Guided Percutaneous Biopsy. S. Kihira, C. Koo, K. Mahmoudi, T. Leong, X. Mei, B. Rigney, A. Aggarwal, A.H. Doshi
American Journal of Neuroradiology Jul 2020, 41 (7) 1316-1322; DOI: 10.3174/ajnr.A6623

- Time to Reconsider Routine Percutaneous Biopsy in Spondylodiscitis?
Ö. Kasalak, M. Wouthuyzen-Bakker, R.A.J.O. Dierckx, P.C. Jutte, T.C. Kwee

American Journal of Neuroradiology Apr 2021, 42 (4) 627-631; DOI: 10.3174/ajnr.A6994

Additional articles that may be helpful include:

- Is Biopsying the Paravertebral Soft Tissue as Effective as Biopsying the Disk or Vertebral Endplate? 10-Year Retrospective Review of CT-Guided Biopsy of Diskitis-Osteomyelitis.

Chang, C. Y., Simeone, F. J., Nelson, S. B., Taneja, A. K. & Huang, A. J. American Journal of Roentgenology 205, 123–129 (2015).