T:26 In a patient showing good clinical response, is MRI evidence of delayed or non-healing an indication for surgery?

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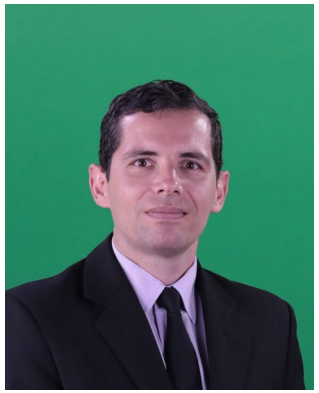

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Why is this topic Important

- This study is important because it addresses a common and critical dilemma in the management of spinal tuberculosis (TB): how to interpret persistent MRI abnormalities after a good clinical response to antitubercular therapy (ATT).
- In real-world practice, physicians frequently face uncertainty about whether continued MRI findings such as marrow edema, contrast enhancement, or paravertebral collections represent ongoing infection or simply residual, non-active changes.
- This ambiguity can lead to two major issues:
  - **Unnecessary Prolongation of ATT:**
    Many clinicians err on the side of caution and continue ATT well beyond the standard duration. This exposes patients to drug toxicity, compliance challenges, and increased healthcare costs without clear evidence of benefit.
  - **Unwarranted Surgical Interventions:**
    MRI abnormalities can be misinterpreted as failure of medical treatment, prompting surgeons to recommend surgery despite clinical improvement.

Literature Review/Process

- Number of articles retrieved:328
- Screening: 8
- Final number of publications : 3

❖ Rationale :

- Spinal tuberculosis (TB) remains a complex disease with a variable healing timeline, making treatment decisions challenging.
- While MRI is a valuable tool for monitoring disease progression, persistent MRI abnormalities such as marrow edema, contrast enhancement, and residual soft tissue involvement often create uncertainty about whether to continue ATT, stop therapy, or proceed with surgery.
- The fundamental issue is that MRI findings do not always correlate with clinical healing, which can lead to unnecessary prolongation of ATT or unwarranted surgical intervention.

Findings from Literature

- Spinal Tuberculosis healing progresses gradually on MRI.
- Persistent MRI enhancement *does not* necessarily indicate active disease.
- Surgical intervention should not be based solely on MRI findings.
- None of the studies recommended surgery solely based on MRI abnormalities without clinical deterioration.
- MRI often shows delayed healing, which does not correlate with ongoing infection, and prolonging ATT unnecessarily can contribute to drug toxicity and noncompliance.

Findings from Literature

- MRI should be used for monitoring but, clinical parameters should take precedence over imaging findings in determining ATT duration.
- MRI often overestimates residual disease and that PET/CT is more reliable for confirming healing.
- MRI abnormalities persisted even after clinical improvement, delaying ATT discontinuation.
- The study recommended a combined clinical, haematological, and imaging-based approach to treatment decisions, reserving surgery for progressive neurological deficits, instability, or unresolved abscesses rather than persistent MRI abnormalities alone.

❖Question:

In a patient showing good clinical response, is MRI evidence of delayed or non-healing an indication for surgery?

❖Response:

- **No, Persistent MRI abnormalities alone should not dictate surgical decisions**

❖Vote:

Agree – 100%, Disagree – 0%, Abstain – 0%
(Unanimous Consensus)

❖ References

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2. Mittal S, Jain AK, Chakraborti KL, Aggarwal AN, Upreti L, Bhayana H. Evaluation of Healed Status in Tuberculosis of Spine by Fluorodeoxyglucose-positron Emission Tomography/Computed Tomography and Contrast Magnetic Resonance Imaging. Indian J Orthop. 2019 Jan-Feb;53(1):160-168. doi: 10.4103/ortho.IJOrtho_224_18.
3. Singh R, Magu NK, Rohilla RK. Clinicoradiologic Profile of Involvement and Healing in Tuberculosis of the Spine. Ann Med Health Sci Res. 2016 Sep-Oct;6(5):311-327. doi: 10.4103/amhsr.amhsr_188_15.