

Sp10: In a Patient Already on Anti-Tubercular Drug Therapy, Should There Be a Window Period Before Biopsy for Culture Studies?

Kshitij Chaudhary, Kazutaka Izawa, Munoz Montoya Juan Esteban.

Recommendation:

There is no evidence to support stopping anti-tubercular drug therapy before performing a spinal biopsy. Considering the chronic and paucibacillary nature of spinal tuberculosis and the diagnostic efficacy of genetic sequencing tests, it is recommended not to interrupt ATT before a spinal biopsy.

Level of Evidence: Very low

Delegate Vote:

Rationale:

The decision to discontinue anti-tubercular therapy (ATT) before a spinal biopsy is complex and may influence the diagnostic yield. Some studies suggest that culture yields for *Mycobacterium tuberculosis* from CT-guided spinal biopsies may decrease in patients already on ATT.(1,2) This raises the possibility that stopping ATT before a biopsy could be beneficial.

Currently, there is no clear evidence recommending the withholding of antitubercular therapy before spinal biopsy to improve diagnostic yield. Unlike pyogenic spondylodiscitis, where stopping antibiotics is common to enhance culture yield,(3) discontinuing ATT in suspected tuberculous spine infections is not practiced. *Mycobacterium tuberculosis* bacilli are slow-growing organisms that multiply approximately once every 24 hours.(4) Consequently, it would take several weeks of stopping ATT to increase the number of active bacteria significantly.

We could not find any studies that interrupted ATT before spinal biopsy. Current guidelines and available literature do not recommend stopping ATT before performing a spinal biopsy.(5,6) In fact, modern molecular diagnostic tools, such as GeneXpert, can detect *Mycobacterium tuberculosis* DNA without the need for actively replicating bacteria, allowing for accurate diagnosis even when patients are undergoing treatment.(7) Therefore, discontinuing ATT before a biopsy is generally not advised. These molecular tests exhibit high sensitivity, although prolonged duration of ATT may still negatively affect their diagnostic accuracy.(8)

The decision to continue or stop empirically started antitubercular therapy (ATT) before a spinal biopsy in a patient suspected of having spinal tuberculosis may depend on clinical judgment and specific circumstances. If the diagnosis of tuberculosis is uncertain and there is a possibility of pyogenic infection, the treating physician may consider stopping empiric ATT. Rifampicin, a key component of the antitubercular regimen, is known to have a bactericidal effect on common causative organisms of pyogenic infections, such as *Staphylococcus aureus*. Therefore, discontinuing ATT may be an option to increase the yield of isolating pyogenic bacteria if the diagnosis is in doubt.

In situations where a patient does not show a favorable clinical or radiological response to empiric ATT, there may be a suspicion of drug resistance. In such cases, stopping an ineffective ATT regimen before biopsy is unlikely to impact the culture yield significantly.

In summary, there are no studies investigating the efficacy of interrupting ATT to increase the diagnostic yield of spinal biopsy. Considering the chronic and paucibacillary nature of spinal tuberculosis and the diagnostic efficacy of genetic sequencing tests, it is recommended not to interrupt ATT before a spinal biopsy.

References :

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