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Edited by Dr. Bhavin Jankharia

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Unusual Spine Infections...And Why Every Suspected Spine Infection Needs a Biopsy

"In India, tuberculosis is the most common cause of spinal infections. Hence many patients with spinal infection are put on empirical anti-tuberculous treatment (AKT) without confirmation of the diagnosis, which is detrimental to the patient." The April 2017 Inner Spaces started with this quote while describing a 26-years old immunocompetent male who presented with Salmonella paratyphi infectious spondylitis at L5/S1.

In the January 2019 Inner Spaces, while talking about spine infections, and the attitude in the community to treat all spine infections with anti-Tb treatment, I said this,

"There are two problems with this thought process:

1 *At least 20% of all patients with tuberculosis of the spine are resistant to first line therapy, mainly rifampicin, even in those who are TB naïve (i.e., they have never had TB in the past)*

2 *10-20% of non-post-operative spine patients with infectious spondylitis have non-TB etiologies and if they are treated with anti-TB drugs without confirmation of the diagnosis, they would land up with inappropriate treatment."*

Since the 2019 Inner Spaces, we have seen many patients with different non-TB spine infections. Here are two very interesting and different presentations, one a young man of Indian origin, working in the United States (Fig. 1) and the other a middle-aged man with an unusual upper dorsal infection (Fig. 2). The legends to the figures explain the case and the diagnoses.

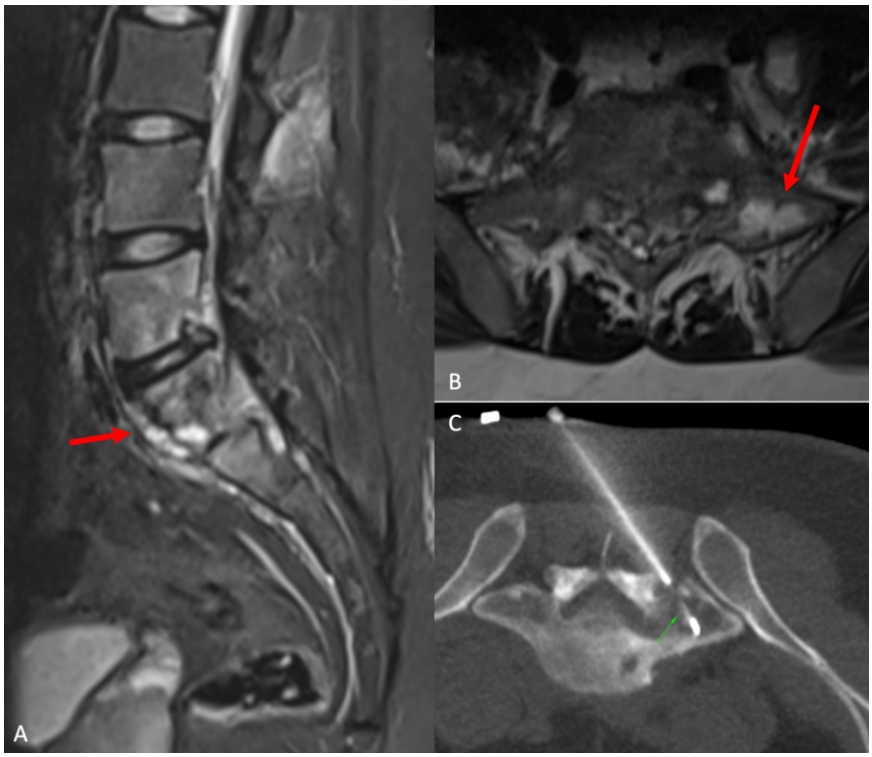

Fig. 1 (A-C): Coccidiodes immitis. 26-years old man from India working in the US had come for vacation and had fever and back pain. The STIR sagittal MRI (A) shows infectious spondylitis (arrow), typical for tuberculosis at L5/S1 with osteolysis in the left sacral ala (arrow) on the STIR axial MRI (B). A CT guided biopsy of the sacral alar component (arrow) was performed. After one week, the microbiologist called asking whether the patient was from one of the Southern US states because the only way to justify the diagnosis of Coccidiodes immitis, is if the patient is residing in those specific areas of the US. On asking, the patient confirmed studying for 2 years in one of those states, where C.immitis is endemic.

At a glance:

- Not all spinal infections are due to tuberculosis and other organisms like Salmonella, E.coli, Staphyloccocus aureus, Brucellosis and fungal infections are also known to infect the disc and end-plates.
- The diagnosis largely depends on the isolation of the organism by microscopic and culture methods.
- A CT guided biopsy is required in all patients with suspected spine infection, not only to confirm the diagnosis and rule out other possibilities but also to obtain material for culture and sensitivity tests.

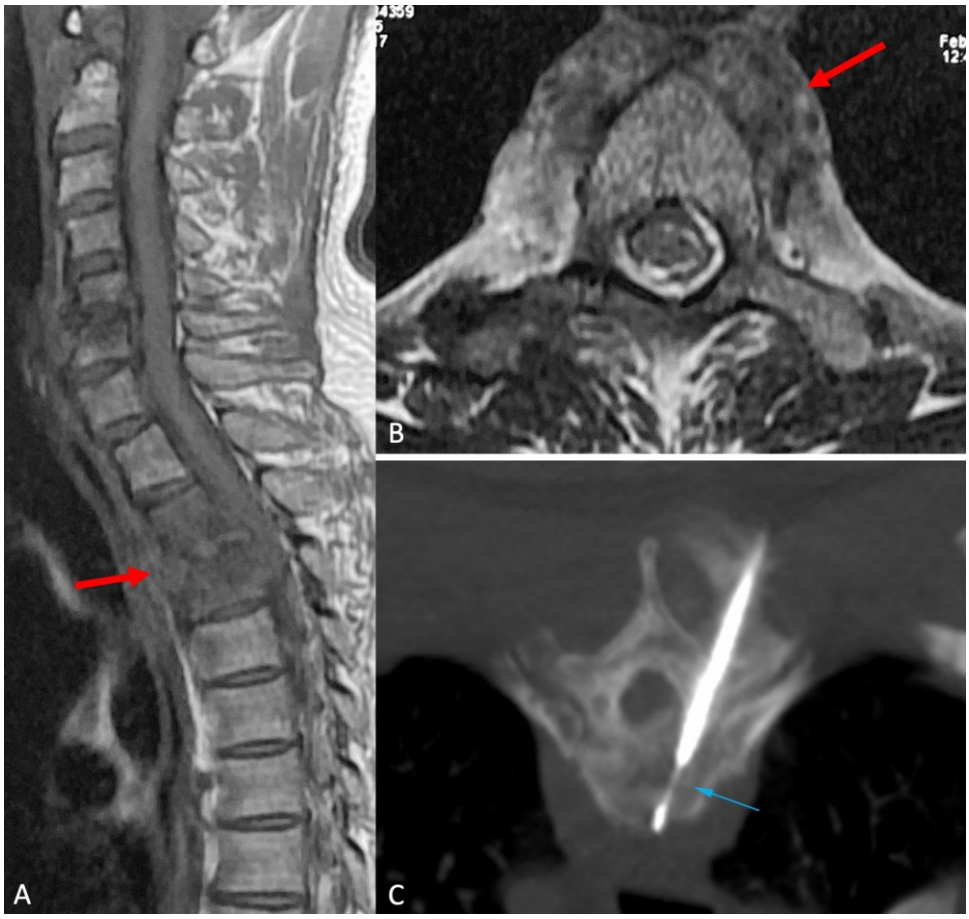

Fig. 2 (A-C): Brucelllosis. A 48-years old man came with fever and upper dorsal backache. The sagittal T1 MRI (A) and axial T2 MRI (B) show an infectious spondylitis (arrow) that shows features typical for tuberculosis. A transpedicular dorsal biopsy (arrow) was performed, which showed Brucellosis. There was no history of working with farm animals, but after specific treatment for Brucellosis, the patient improved dramatically and follow-up MRI showed marked improvement.

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