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INNER SPACES
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Why Every Infectious Spondylitis Needs a CT Guided Biopsy

Infectious spondylitis is defined as the presence of a disco-vertebral pathology on x-rays, CT scan or MRI with abnormality of the disc space and involvement of contiguous vertebral bodies. Usually there is also abnormal soft tissue or an abscess. In India, because of the endemic nature of tuberculosis, most of these patients are assumed to be of tuberculous etiology and put on anti-tuberculous therapy without confirmation of the diagnosis.

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.

Here are two cases that focus on point 2. Both are cases that looked like TB on imaging but turned out to be non-tuberculous after a biopsy.

The first (Fig. 1) is a 46-years old man with an L2/3 lesion that turned out to be Escherichia coli (E.coli) on culture and the second (Fig. 2) is a 66-years old man with a D6/7 lesion that turned out to be methicillin sensitive Staphylococcus aureus (MSSA). Both had findings that could easily have been mistaken for tuberculosis and in many situations would have been put on anti TB treatment without a diagnosis, with disastrous consequences.

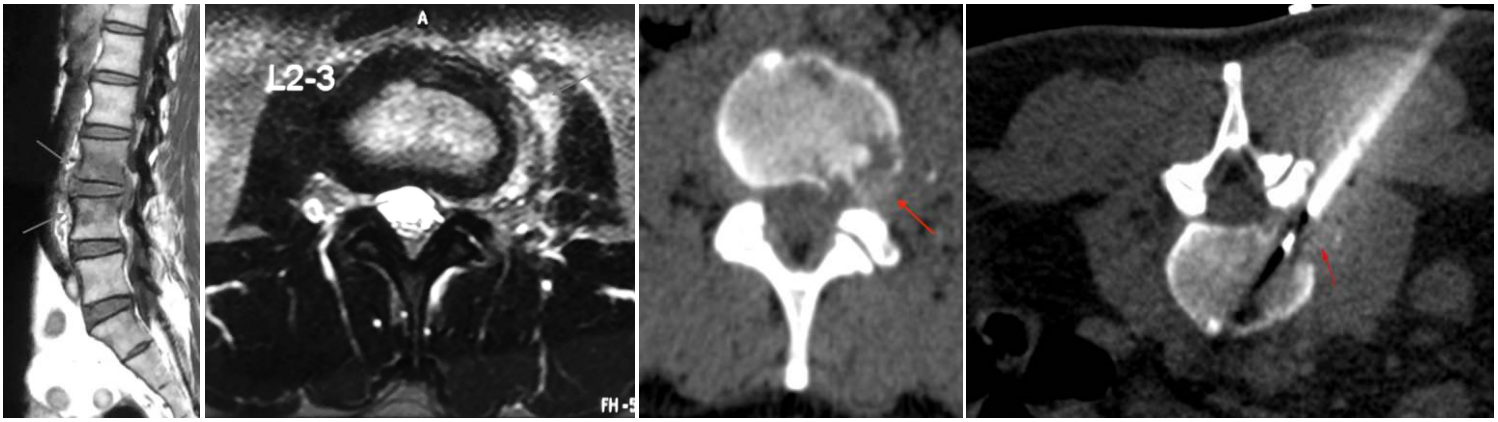

Fig.1A Fig.1B Fig.1C Fig.1D

Fig. 1 (A-D): Sagittal T1W (A) MRI shows a discovertebral lesion with marrow edema of the L2 and L3 vertebral bodies (arrows), with abnormal left perivertebral soft tissue on the axial STIR (B) image (arrow). The CT scan (C) shows an osteolytic lesion with abnormal soft tissue (arrow), which was then biopsied (D).

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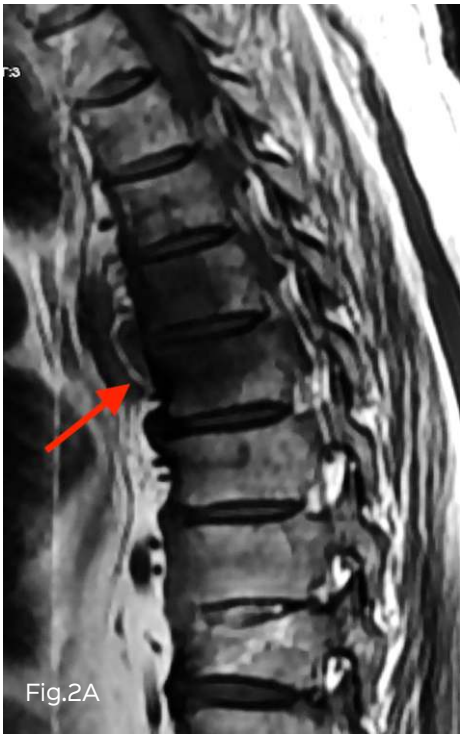
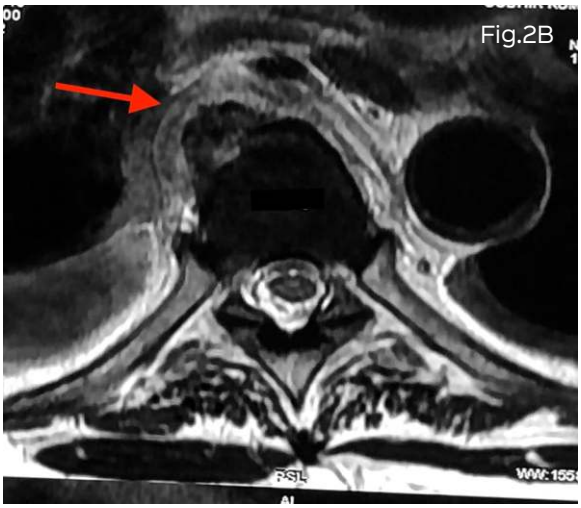
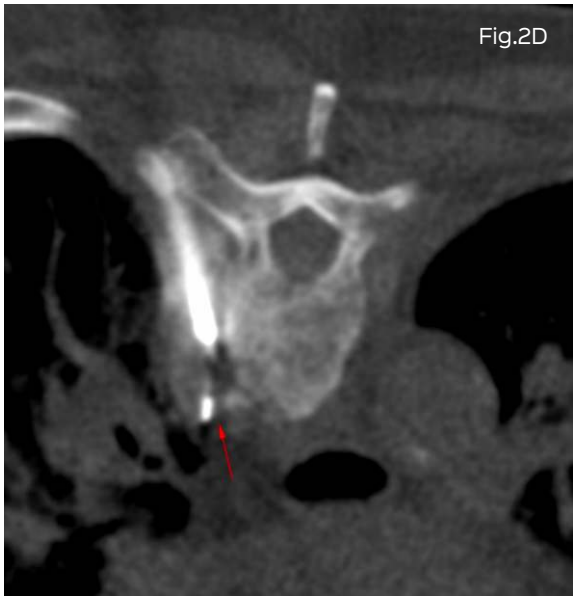
At a glance:

- Tuberculosis is the commonest cause of infectious spondylitis in India
- However, all infectious spondylitis is not TB and other conditions can also produce infectious spondylitis
- A CT guided biopsy is a must in all cases of infectious spondylitis, to confirm the exact etiology as well as to check for resistance if it turns out to be tuberculosis.







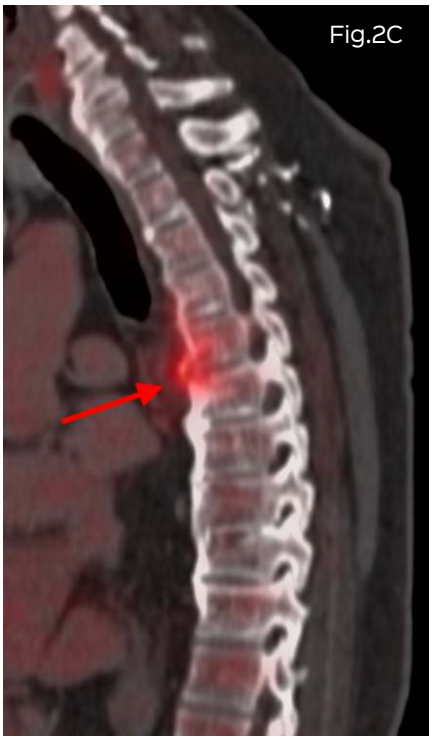


Fig. 2 (A-D): MSSA infectious spondylitis D6/7. Sagittal T1W (A) MRI shows a discovertebral lesion with marrow edema at the D6/7 level (arrow) with abnormal perivertebral soft tissue and new bone formation, right more than left on the axial T2W image (arrow). The sagittal PET/CT shows the end-plate erosions and abnormal uptake (arrow), which was then biopsied (D).

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