

Diffusion Weighted Imaging (DWI) MR

The enhanced DWI technique provides high signal-to-noise ratio images. Its multi-b feature is designed to provide measurement of apparent diffusion coefficient (ADC) map with reduced effect of perfusion.

The "3 in 1" technique provides greater sensitivity. It has a tetrahedral built-up that helps in applying four different diffusion-weighting combinations of x, y, and z gradients simultaneously to acquire isotropic, diffusion-weighted images with high SNR and shorter TE. It has a smart NEX feature that significantly reduces acquisition time.

The inversion recovery has been deployed to provide robust fat suppression.

Neuro MRI: Utility of DWI in Neurofibroma of Spine

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"DWI MR imaging is an useful diagnostic tool for lesions of the Spine"

Patient History

A 67-year-old man presented with persistent low backache. The patient also complained of occasional feeling of weakness in his feet. There was no history of trauma or infection.

Physical examination

- Lumbar region appeared normal on inspection
- Mild tenderness in the lumbar region on palpation
- No neurological abnormality seen clinically
- Lower limb pulses felt

Provisional diagnosis

- Focal nodular lesion at L3-L4 ? Neurofibroma

MRI technique and Findings

Routine Sag T2/T1, Axial T2/T1 along with DWI Ax/Sag sequences were performed. A focal lesion at the level of L3-L4 showed Hypo to Is intense in T2, T1 showed Is intense to the grey matter of spinal cord at the parasagittal region. DWI sequences showed diffuse lesion restricted at the level of L3-L4. This was followed by performance of a contrast study. The study revealed features suggestive of a Neurofibroma.



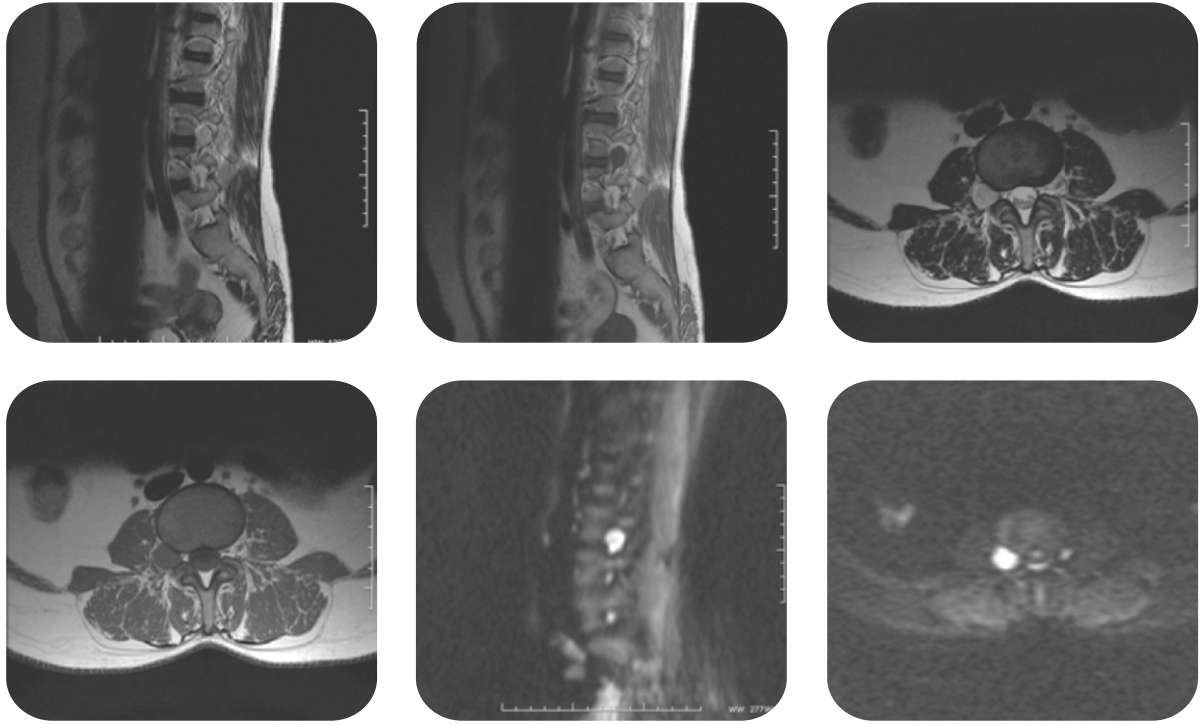


Image courtesy of GNRC, Guwahati

Treatment

Complete excision of the tumour with disc and muscle reconstruction for complete restoration of function and alleviation of symptoms. The radiological diagnosis using DWI was confirmed with histopathological examination. No recurrence after treatment was observed.

Conclusion

DWI MR imaging is useful in the diagnosis of Neurofibroma of Spine.

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