

Lumbar Stenosis: Oblique Coronal Images in MRI for assessment of Ligamentum Flavum

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ABSTRACT

Though axial views at lumbar disk level in the plane of the disk and sagittal views at lumbar foramen level are routinely used in assessing the canal stenosis, lateral extent of thickened ligamentum flavum which is truly causing symptoms is well demonstrated in oblique coronal views in magnetic resonance imaging (MRI). Emphasis on this view in addition to the routine views will improve our understanding of lumbar canal stenosis, particularly in and around superior facet and axilla of the nerve root close to neural foramen.

Keywords: Ligamentum flavum, Lumbar stenosis, Magnetic resonance imaging, Oblique coronal view.

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MAGNETIC RESONANCE IMAGING OBLIQUE CORONAL IMAGE AND DISCUSSION

Coronal plane oblique sections of magnetic resonance imaging (MRI) along the plane of ligamentum flavum and not the cross or transverse section along the disk plane provides an excellent view of the ligamentum from midline to its extreme lateral extension. The ligament from the medial region drapes laterally below the lamina and superior articular process, borders the posterior wall of neural foramen, attaches to the superior pedicle, and continues as intertransverse ligament. This anatomy is well visualized through transforaminal endoscopy as we view the ligament from the ventral aspect.¹ Endoscopic spine surgeons enjoy seeing the ligament in this way and

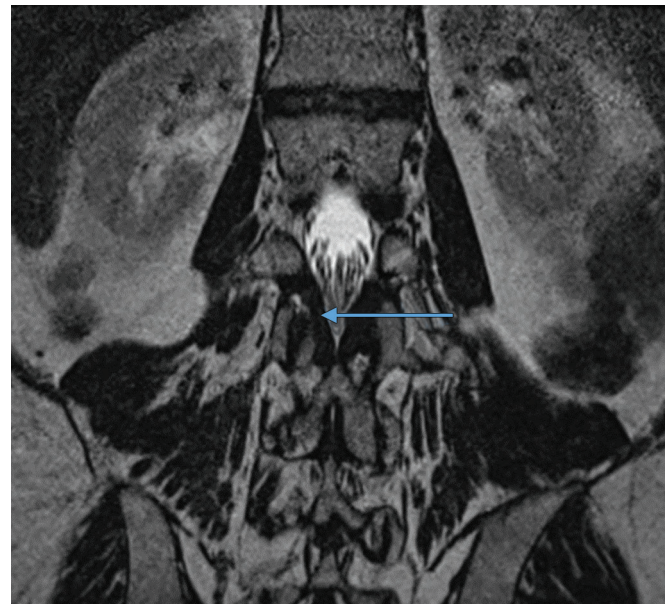


Fig. 1: Magnetic resonance imaging oblique coronal view showing the entire length of ligamentum flavum from midline to superior pedicle and foramen. The nerve root exiting is just below the pedicle

have great understanding of the thickness of the ligament and in turn the extent of canal stenosis due to buckling of the thickened ligament. It also gives a unique perspective on symptom causation as the patient is awake and aware. The ligament can then also be suitably handled under local anesthesia.

The coronal oblique view provides excellent visualization of the entire ligamentum flavum as seen in Fig 1. Conventional views like axial section at disk level alone may not provide the exact assessment of lumbar canal stenosis. Our experience in endoscopic spine surgery recommends the use of oblique coronal views as a routine in assessing lumbar canal stenosis that facilitates surgical plans in foraminal decompression.

REFERENCE

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