

“Development of lumbar high intensity zone on axial loaded magnetic resonance imaging,,

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SUMMARY:

STUDY DESIGN:

Case report

OBJECTIVES:

To report the development of high intensity zones in the lumbar posterior anulus on axial loaded magnetic resonance imaging.

SUMMARY OF BACKGROUND DATA:

The high intensity zone is seen in the posterior anulus of degenerate lumbar discs on T2-weighted magnetic resonance images and represents a radial anular tear. Although the specificity of the high intensity zone for a concordantly painful anular tear in patients undergoing discography for discogenic low back pain is high, the sensitivity of magnetic resonance imaging for identification of discographically demonstrated anular tears is approximately 30%.

METHODS:

A 55-year-old female with chronic low back pain was imaged with lumbar spine magnetic resonance imaging before and following axial loading with a magnetic resonance imaging-compatible compression device.

RESULTS:

The nonloaded study demonstrated degeneration of the lower four lumbar discs. Following axial loading, posterior central high intensity zones were identified at the L2-L3 and L4-L5 levels.

CONCLUSION:

High intensity zones developed on axial loaded magnetic resonance imaging of the lumbar spine. We postulate that lumbar spine magnetic resonance imaging with axial loading may increase the sensitivity of magnetic resonance imaging for the detection of high intensity zones.

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