Intervertebral disc degeneration diagnosis

A disc with imaging characteristics suggestive of gas in the disc space, usually a manifestation of disc degeneration

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Intervertebral disc degeneration are present in a high proportion of asymptomatic individuals and increase with age [1) 2)].

Although many imaged-based degenerative changes are due to the normal aging process, such imaging findings are often interpreted as the cause of the patient's back pain and initiate a cascade of medical and surgical interventions, which may not be helpful in relieving the symptoms [3)].

A diagnosis is based on a medical history and a physical examination, as well as the symptoms and the circumstances where the pain started. Magnetic resonance imaging can show damage to discs, but it alone cannot confirm degenerative disc disease.

With disk degeneration, the adjacent vertebral endplates and subchondral bone will commonly show signal intensity changes on MRI (ie, Modic changes).

Pfirrmann grading system

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1)
Brinjikji W, Luetmer PH, Comstock B, et al. Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. AJNR Am J Neuroradiol. 2015;36(4):811–816.
2)
Boden SD, Davis DO, Dina TS, Patronas NJ, Wiesel SW. Abnormal magnetic-resonance scans of the lumbar spine in asymptomatic subjects: a prospective investigation. J Bone Joint Surg Am. 1990;72(3):403–408.
3)
Carragee E, Alamin T, Cheng I, Franklin T, van den Haak E, Hurwitz E. Are first-time episodes of serious LBP associated with new MRI findings? Spine J. 2006;6(6):624–635.