

Abstract

Prevalence of Abnormal Findings in 686 Patients Referred for Cervical Spine and Lumbar Spine MRI Examinations by Doctors of Chiropractic and Potential Neurological Consequences Associated with Vertebral Subluxation

Christopher Kent*

**Sherman College of Chiropractic, Spartanburg, South Carolina, USA*

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ABSTRACT

MRI reports on 325 cervical spine and 361 lumbar spine cases referred by doctors of chiropractic were obtained from a private, free standing imaging center. This study sought to determine the prevalence of abnormal MRI findings in this cohort. Three hundred and twenty-five MR studies of the cervical spine were reviewed. Two hundred ninety seven of 325 reports (91%) presented spinal abnormalities, while 28 of 325 had no abnormalities noted. One hundred thirteen (35%) of 325 had disc degeneration with 54 MRIs (17%) exhibiting osteophytosis, 21 (6%) posterior ridging, and 2 (1%) arthroses of Joints of Lushcka. Two hundred twenty-five-disc lesions were present with many reports indicating multiple lesions at different segments. One hundred one of 325 reports (31%) indicated disc bulges, 15 of 325 (5%) were specifically central disc bulges. Sixty-one (19%) indicated central herniations, 44 (14%) paracentral herniations, and 4 (1%) disc herniations were found without directionality indicated.

Three hundred and sixty-one MR lumbar spine reports were reviewed. Three hundred twenty two of 361 reports (89%) presented spinal abnormalities, while 39 of 361 had no abnormalities noted. Two hundred fifty-one (70%) of 361 had disc degeneration. One hundred forty six of 361 reports (40%) indicated disc bulges, 10 (3%) anterior disc protrusion, 58 (16%) central herniation, 13 (4%) lateral disc bulge, 11 (3%) lateral herniation, 44 (12%) paracentral herniation and 24 (7%) indicated borderline canal stenosis.

Degenerative changes in the spine may be associated with vertebral subluxations. Vertebral subluxations are changes in the position or motion of a vertebra, which result in the interference with nerve function. Possible neurobiological mechanism associated with vertebral subluxations include, compression, stretch, dysafferentation, dyskinesia, dysponesis, dysautonomia, neuroplasticity and ephaptic transmission.

Keywords: Magnetic resonance imaging, Cervical spine, Lumbar spine, Vertebral subluxation, Chiropractic

Abbreviation

MRI: Magnetic Resonance Imaging

Corresponding author: Christopher Kent, Sherman College of Chiropractic, Spartanburg, South Carolina, USA, E-mail: ckent@sherman.edu

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