The Use of Weight-Bearing Magnetic Resonance Imaging in Lumbar Spine Examination

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Abstract
The high prevalence of degenerative changes of spine in the population and a large number of complications after surgical treatment require an expanded diagnostic algorithm with new techniques of examination. One of them is weight-bearing magnetic resonance imaging. We examined 51 patient with chronic back pain. The study was conducted using a tomography with magnetic field of 0.25 T in the supine and upright position.

The study of lumbar spine using a weight-bearing magnetic resonance imaging position allowed to receive additional information in 90.2% of cases, which was clinically significant in 17.6% of cases. This technique is able to specify the degree of spinal canal stenosis, the severity of degenerative changes and reveal the presence of unstable spinal motion segments, protrusions and herniations of intervertebral discs, which may influence the choice of further treatment. Weight-bearing magnetic resonance imaging enables to reduce patient radiation dose by restricting the use of functional techniques in the diagnostic algorithm.

Key words: Weight-Bearing Magnetic Resonance Imaging, Lumbar Spine, Degenerative Disease of the Spine.

References
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