

Abstract

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Objective: To systemically evaluate MR imaging features of tuberculous spondylitis and to find features that may help differentiating tuberculosis from other spinal diseases.

Material and Method: Retrospective review of 65 MR imaging of two groups of patients between January 2002 and December 2005. Thirty-one patients were diagnosed as tuberculosis spondylitis and the rest were a randomly selected group of 34 patients with other spinal diseases. All images were reviewed by two neuroradiologists blinded to clinical data. Sensitivity and specificity of each MR imaging features were calculated.

Results: Three most useful MR imaging features with high sensitivity and specificity (> 80%) were endplate disruption (100%, 81.4%), paravertebral soft tissue (96.8%, 85.3%), and high signal intensity of intervertebral disc on T2W (80.6%, 82.4%). High sensitivity but low specificity signs in MRI included bone marrow edema (90.3%, 76.5%), bone marrow enhancement (100%, 42.5%), posterior element involvement (93.5%, 76.5%), canal stenosis (87.1%, 26.5%), and spinal cord or nerve root compression (80.6%, 38.2%). Low sensitivity but high specificity features in MRI were intervertebral disc enhancement (63.3%, 84.2%), vertebral collapse (58.1%, 85.3%), and kyphosis deformity (67.7%, 82.4%). Overall, the sensitivity and specificity of MRI for spinal tuberculosis were 100% and 88.2% respectively.

Conclusion: The authors presented three good to excellent sensitivity and specificity MR imaging features for spinal tuberculosis, end plate disruption, paravertebral soft tissue formation, and high signal of intervertebral disc on T2W. In contrast to a previous study, most of the presented cases still presented with classic radiological pictures of “two vertebral disease with the destruction of the intervertebral disc”. Only a small portion of the patients revealed sparing intervening disc or isolated single vertebral body involvement, which possibly reflected the early stages of the disease process.

Keyword: Tuberculosis, Spondylitis, Magnetic resonance imaging