Hirayama flexion myelopathy: neutral-position MR imaging findings - importance of loss of attachment

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摘要

Abstract

PURPOSE: To investigate the sensitivity and specificity of various neutral-position magnetic resonance (MR) imaging findings in the diagnosis of Hirayama flexion myelopathy. MATERIALS AND METHODS: The neutral-position cervical MR images of 46 patients and 51 control subjects were evaluated for the following findings: localized lower cervical cord atrophy, asymmetric cord flattening, abnormal cervical curvature, loss of attachment (LOA) between the posterior dural sac and subjacent lamina, and noncompressed intramedullary high signal intensity on T2-weighted MR images. The difference in frequency of these findings between the control and patient groups was examined by means of the 2 test. The sensitivity, specificity, accuracy, positive predictive value, and negative predictive value of these MR imaging findings in the diagnosis Hirayama disease were calculated. Multivariate analysis of these findings was also performed. RESULTS: There was a significant difference in the frequency of these MR imaging findings between the control and patient groups (all comparisons, P .002). Among the MR imaging findings, localized lower cervical cord atrophy, asymmetric cord flattening, and LOA had accuracy of more than 80% in identification of the disease. After multivariate analysis, LOA was the only significantly important predictor of the disease, with odds ratio of 716.7 (95% CI: 71.9, 7,145.2). Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of LOA were 93.5%, 98.0%, 97.7%, 94.3%, and 95.9%, respectively. CONCLUSION: LOA from posterior dural sac and subjacent lamina is the most valuable finding in the diagnosis of Hirayama disease at neutral-position MR imaging. © RSNA, 2004