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Association between findings of provocative discography and vertebral endplate signal changes as seen on MRI.

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Abstract

Provocative discography is a controversial diagnostic tool for pathologic discs. Modic has identified vertebral endplate signal changes on magnetic resonance imaging (MRI) that are thought to signify advanced discogenic degeneration. These two distinct diagnostic tools are examined to determine if there is association between them. Fifty-three consecutive patients who underwent both investigations were retrospectively reviewed. In discs that had negative T1 MRI findings, 28.2% of patients had concordant pain and 17.3% had discordant pain. In discs with positive T1 MRI findings, 34.8% of patients had concordant pain and 17.4% had discordant pain. 79.5% and 74.4% of levels with patient concordant pain on discography had no endplate changes on T1- and T2 weighted MR images, respectively (compared with 84.5% and 81.7%, respectively, for levels with no patient pain on discography). Our data showed no significant relationship between these distinct diagnostic tools. Further investigation of their relative roles in this application is recommended.