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The prognostic value of electrodiagnostic testing in patients with sciatica receiving physical therapy

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Purpose: Investigate the prognostic value of electrodiagnostic testing in patients with sciatica receiving physical therapy.

Methods: Electrodiagnostic testing was performed on 38 patients with sciatica participating in a randomized trial comparing different physical therapy interventions. Patients were grouped and analyzed according to the presence or absence of radiculopathy based on electrodiagnostic testing. Longitudinal data analysis was conducted using multilevel growth modeling with 10 waves of data collected from baseline through the treatment and post-treatment periods up to 6 months. The primary outcome measure was changes in low back pain-related disability assessed using the Roland and Morris Disability Questionnaire (RMDQ).

Results: Patients with radiculopathy (n=19) had statistically significant and clinically meaningful improvements in RMDQ scores at every post-treatment follow-up occasion regardless of treatment received. The final multilevel growth model revealed improvements in RMDQ scores in patients with radiculopathy at the 6-week (-8.1, 95% CI, -12.6 to -2.6; P=.006) and 6-month (-4.1, 95% CI, -7.4 to -0.7; P=.020) follow-up occasions compared to patients without radiculopathy. Treatment group was not a significant predictive factor at any follow-up occasion. An interaction between electrodiagnostic status and time revealed faster weekly improvements in RMDQ scores in patients with radiculopathy at the 6-week (-0.72, 95% CI, -1.4 to -0.04; P=.040) through the 16-week (-0.30, 95% CI, -0.57 to -0.04; P=.028) follow-up occasions compared to patients without radiculopathy.

Conclusions: The presence of lumbosacral radiculopathy identified by electrodiagnostic testing which is a favorable prognostic factor for recovery in low back pain-related disability regardless of physical therapy treatment received.

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