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Short-term changes in neck pain, widespread pressure pain sensitivity, and cervical range of motion after the application of trigger point dry needling in patients with acute mechanical neck pain: a randomized clinical trial.

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Abstract

STUDY DESIGN: Randomized clinical trial.

OBJECTIVES: To determine the effects of trigger point dry needling (TrPDN) on neck pain, widespread pressure pain sensitivity, and cervical range of motion in patients with acute mechanical neck pain and active trigger points in the upper trapezius muscle.

BACKGROUND: TrPDN seems to be effective for decreasing pain in individuals with upper-quadrant pain syndromes. Potential effects of TrPDN for decreasing pain and sensitization in individuals with acute mechanical neck pain are needed. Methods Seventeen patients (53% female) were randomly assigned to 1 of 2 groups: a single session of TrPDN or no intervention (waiting list). Pressure pain thresholds over the C5-6 zygapophyseal joint, second metacarpal, and tibialis anterior muscle; neck pain intensity; and cervical spine range-of-motion data were collected at baseline (pretreatment) and 10 minutes and 1 week after the intervention by an assessor blinded to the treatment allocation of the patient. Mixed-model analyses of variance were used to examine the effects of treatment on each outcome variable.

RESULTS: Patients treated with 1 session of TrPDN experienced greater decreases in neck pain, greater increases in pressure pain threshold, and higher increases in cervical range of motion than those who did not receive an intervention at both 10 minutes and 1 week after the intervention ($P < .01$ for all comparisons). Between-group effect sizes were medium to large immediately after the TrPDN session (standardized mean score differences greater than 0.56) and large at the 1-week follow-up (standardized mean score differences greater than 1.34).

CONCLUSION: The results of the current randomized clinical trial suggest that a single session of TrPDN may decrease neck pain intensity and widespread pressure pain sensitivity, and also increase active cervical range of motion, in patients with acute mechanical neck pain. Changes in pain, pressure pain threshold, and cervical range of motion surpassed their respective minimal detectable change values, supporting clinically relevant treatment effects. Level of Evidence Therapy, level 1b-.

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