Changes in neck mobility and pressure pain threshold levels following a cervical myofascial induction technique in pain-free healthy subjects.

OBJECTIVE:

The purpose of this study was to investigate if the application of a cervical myofascial induction technique targeted to the ligamentum nuchae resulted in changes in cervical range of motion and pressure pain thresholds (PPT) in asymptomatic subjects.

METHODS:

Thirty-five subjects, 8 men and 27 women (mean age, 21 +/- 4 years), without a current history of neck, shoulder, or arm pain participated. Participants were randomly divided into 2 groups: the experimental group, which received a real cervical myofascial induction technique, and the control group, which received a sham-manual procedure. Bilateral PPT levels over C5-C6 zygapophyseal joints and tibialis anterior muscles and neck mobility were assessed preintervention and 5 minutes postintervention by an assessor blinded to the treatment allocation of the subject. Separate mixed-model analyses of variance were used to examined the effects of the treatment on neck mobility and PPT levels as the dependent variable, with group (experimental or control) as the between-subjects variable and time (pre-post test) or side (dominant, nondominant) as the within-subjects variable. The hypothesis of interest was the group x time interaction at an a priori alpha level equal to .05.

RESULTS:

The group x time interaction was statistically significant for cervical flexion (F = 5.4; P = .03), extension (F = 3.3; P = .045), and left lateral-flexion (F = 4.6; P = .04), but not for right lateral-flexion (F = 2.5; P = .1), right rotation (F = 0.5; P = .5), and left rotation (F = 0.09; P = .2). Subjects receiving the real cervical myofascial induction technique experienced greater improvement in cervical mobility when compared with the control group. The group x time interaction did not reveal any significance for PPT in the C5-C6 zygapophyseal joints (F = 0.5; P = .5) and in the tibialis anterior muscle (F = 0.2; P = .8).

CONCLUSIONS:

The application of a cervical myofascial induction technique resulted in an increase in cervical flexion, extension, and left lateral-flexion, but not rotation motion in a cohort of healthy subjects. No changes in PPT in either C5-C6 zygapophyseal joint (local point) or tibialis anterior muscle (distant point) were found.