

U7 Manipulative scar treatment and osteopathic manipulative treatment for pain, shoulder motion and quality of life in post-mastectomy pain syndrome (PMPS). A randomized clinical trial

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Background: PMPS affects about 25% of breast cancer survivors. Drugs, sometimes ineffective, carry risks of adverse events.

Purpose: This study assesses the effect of Manipulative Scar Treatment (MST), with/without Osteopathic Manipulative Treatment (OMT), on pain, shoulder range of motion in external rotation (ROM-RE), distress and Quality of Life (QoL).

Methods: Upon informed consent, 18 (mean age 52.88, SD 10.92) PMPS patients, attending oncologic follow-up, were randomized during 5 weekly sessions of treatment MST+OMT (9 patients) vs MST-alone (9 patients). Pain quality/intensity was assessed with *Short-form McGill Pain Questionnaire* (SF-MPQ) and *Douleur Neuropathique-4* (DN-4); Distress with *Distress Thermometer* (DT); QoL with *36-Item-Short-Form Health Survey* (SF-36); ROM-RE of the shoulder with an universal goniometer. Data were collected before the 1st (T0), 3rd (T2), 5th (T4) sessions, and monthly thereafter (F1, F2). Wilcoxon, Paired *t* test, Mann-Whitney test and Two-sample *t*-test were used for statistical analysis.

Results: 18 patients attended the entire schedule until F1 and 17 patients until F2. Both group MST+OMT and MST improved their condition concerning pain intensity at T4, F1 and F2 vs T0: SF-MPQ overall score at F2 vs T0 decreased in group MST+OMT (mean change -5.88, SD 3.72; *P* = 0.009) and MST (-5.62, SD 5.31; *P* = 0.020); SF-MPQ Visual-analogue scale at T2 vs T0 decreased in group MST+OMT (-25.33, SD 14.43; *P* = 0.007) and MST (-28.25, SD 21.49; *P* = 0.017). DN-4 score decreased at F2 vs T0 in group MST+OMT (-2.33, SD 1.58; *P* = 0.008) and MST (-2.12, SD 3.35; *P* = 0.11). DT score improved in F2 vs T0 in group MST+OMT: (-3.77, SD 2.65; *P* = 0.007) and MST (-2, SD 2.13; *P* = 0.040). ROM-RE significantly improved in MST+OMT at all intervals (F2 vs T0: +10.55, SD 5.72; *P* < 0.001), but not in MST. QoL by SF-36 improved at F2 vs T0 in group MST+OMT, with significant differences in physical functioning (+11.11, SD 9.27; *P* = 0.016), pain (+23.66, SD 16.79; *P* = 0.011), social functioning (+24.88, SD 19.77; *P* = 0.017), emotional role (+37.11, SD 38.88; *P* = 0.026) and emotional well-being (+12.44, SD 15.15; *P* = 0.008), while group MST showed no significant change in all scales, at all intervals. Between-group differences at F1 vs T0 were observed in general health (*P* = 0.037), energy/fatigue (*P* = 0.002), emotional role (*P* = 0.007).

Conclusions: Our results suggest a reduction in pain and distress in all patients, with/without OMT, maintained at 2 months, and an additional improvement in range-of-motion and QoL in MST+OMT group. A larger study is required to confirm these results.