**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.

**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 Neuropatique-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.