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### **Quantifying treatment effects of gua-sha on female upper trapezius active myofascial trigger points with sonoelastographic measurement**

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**N**ovel approach in traditional Chinese medicine: Myofascial pain syndrome is characterized as myofascial trigger points (MTrP) in taut bands. Previous literature showed that MTrPs are hypoechoic areas identified by sonoelastography and active MTrPs had larger area than normal and latent MTrPs. However, no studies to date use MTrPs' cross-sectional areas as an objective outcome measure to assess treatment effect and there is no studies discussing the effects of Gua-Shaon trigger points. This study aimed to quantify the treatment effects of Gua-Shaon female upper trapezius active MTrPs with sonoelastographic measurement. Three office female workers ( $37.3 \pm 3.0$  y/o) with active trigger points on their upper trapezius, who had neck pain for the past 3 months were recruited. Gua-sha intervention was applied to the more painful side for under 5 minutes. Outcome measures include: MTrPs' cross-sectional area measurements through sonoelastography, neck disability index (NDI) and visual analogue scale (VAS) at immediately after treatment, two days and one week follow up were evaluated. Results showed a reduction in cross-sectional area from baseline ( $24.38 \pm 5.08$  mm<sup>2</sup>) to immediately ( $15.67 \pm 1.80$  mm<sup>2</sup>), two days ( $17.03 \pm 5.26$  mm<sup>2</sup>) and one week after treatment ( $22.92 \pm 4.75$  mm<sup>2</sup>). Positive treatment effects were also observed for both NDI (54%) and VAS (100%). Preliminary findings showed that sonoelastographic measurement is feasible in quantifying treatment effects and Gua-Sha is an effective treatment on female upper trapezius active MTrPs with objective and subjective measures.

#### **Biography**

Hui-Chun Huang is a Physical Therapist and a master student who studies in the school and graduate institute of physical therapy, National Taiwan University in Taiwan. Her research interest lies in tradition Chinese medicine, Gua-Sha and orthopedic physical therapy. Yu-Jen Chen is an Assistant Professor and Director of musculoskeletal imaging laboratory in the school and graduate institute of physical therapy, National Taiwan University in Taiwan. His research interest lies in musculoskeletal imaging, biomechanics with in-vivo joint modeling and traditional medicine.

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