

Randomized trial of trigger point acupuncture treatment for chronic shoulder pain: a preliminary study

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Aim

The aim of this randomised and sham controlled, clinical trial was to determine if trigger point acupuncture is an effective treatment for chronic shoulder pain.

Methods

Eighteen patients (15 men, 3 women; 42-64 years of age) with at least a 6 month history of shoulder pain of non-neurogenic, cervicogenic or systemic origin, were randomised into two groups (a trigger point group or a sham acupuncture group) and administered treatments on 5 occasions over 5 weeks. Outcome measures included the visual analogue scale (VAS) for pain intensity and the Constant-Murley score (CMS) for shoulder function, and were assessed at varying time points over the 20 weeks following the first treatment.

Results

Significant differences were found in favour of trigger point acupuncture, at the conclusion of 5 weeks of treatment, for both the VAS and CMS. Significant improvement in pain reduction continued in the trigger point group for a further 5 weeks following cessation of treatment; however, improvement in function was no longer significant at this stage. At the week 10 and 20 post-treatment assessments, there were no significant improvements in either shoulder pain or function.

Conclusion

Trigger point acupuncture appears to have short term benefits for chronic shoulder pain and dysfunction when compared to sham treatment.

Commentary

The use of acupuncture is becoming increasingly popular as an alternative therapy and is commonly used by physiotherapists to treat musculoskeletal pathologies such as myofascial pain; however, evidence regarding the effectiveness of such treatment is controversial (Tough et al 2009). Chronic shoulder pain is usually multifactorial and myofascial pain is often a feature. Myofascial trigger points are defined as hyperirritable points located in taut bands of skeletal muscle or fascia which when compressed cause local tenderness and/or referred pain (Simons 2002, Tough et al 2009, Yap 2007). One of the effects of needling a trigger point is to reduce the localised muscle contraction, which is thought to happen following a local twitch response; the "sparrow pecking" technique was used in this study to try and elicit this response and then the needles were left in for 10 minutes.

The choice of which acupuncture points to use is an important factor affecting the outcome of treatments and clinical trials (Tough et al 2009). In this study, the points in both the sham and acupuncture groups were individually chosen by an experienced acupuncturist, by palpating for the most comparable trigger points around the neck and upper arm. The mean number of points used was 4.1. The choice of different points for different patients did not compromise the validity

of this research as the same method of choosing points was used for both groups. Interestingly, the most commonly chosen trigger points were within the four rotator cuff muscles, which are known to have an important role in controlling glenohumeral movement, and may be associated with glenohumeral impingement syndromes, and adhesive capsulitis (Simons 2002).

The sham acupuncture technique used in this study seems to have been successful. Blunt needles that did not penetrate the skin, were pretended to be inserted over the chosen trigger point sites, and their removal was simulated after 10 minutes. Participants in both groups wore blind folds. The effectiveness of this blinding technique was evaluated and was effective, with 78% of the trigger point group perceiving that the needle had penetrated the muscle compared to 75% of the sham group. The assessors of the outcome measures were also blinded to which group the patients were in and therefore the potential for bias was minimised (Hopton and MacPherson 2011).

The outcome measures chosen in this study were a 100mm VAS for pain, and the CMS for shoulder function. The CMS provides an overall shoulder functional assessment score that is easy to use and clinically relevant (Constant and Murley 1987). Scores are given for activities of daily living, degree of flexion, abduction, internal and external rotation, and pain level; these are then combined to attain an overall score for shoulder function.

The trigger point acupuncture group showed a significant improvement in pain intensity at the 4th and 5th treatment, and the follow-up assessment at week 10. A significant improvement in shoulder function, was also apparent at the completion of treatment (week 5); however, this improvement did not maintain significance from week 10 onwards. As a physiotherapist, shoulder pain and dysfunction would not normally be solely treated with acupuncture but would usually include other modalities such as exercises and mobilisation. If indicated, stretching of muscle groups and normalising muscle control around the shoulder should be included in clinical practice, so that the treatment effect is more likely to be maintained (Yap 2007). Individual data within the CMS testing process were not documented, and therefore it is unknown whether there were other significant improvements in measured parameters, such as shoulder range of movement (Constant and Murley 1987).

This study by Itoh et al (2014) confirms that trigger points may be a contributing factor in the aetiology of chronic shoulder pain and dysfunction. The results also demonstrate that trigger point acupuncture maybe a valuable treatment modality for chronic shoulder pain, when myofascial pain is identified and the needles are inserted effectively, to produce a local twitch response.

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