Treatment of myofascial trigger points in patients with chronic shoulder pain: a randomized, controlled trial

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Introduction

Background of incidence of shoulder pain in Dutch primary care practice 19 to 29.5 per 1000. Describes clinical picture of subacromial impingement syndrome (SIS) and describes RCTs, meta-analyses and systematic reviews that demonstrate conflicting or lacking evidence of effectiveness of a number of modalities and therapies for the relief of symptoms. The author uses this information to justify a search for an 'alternative explanation of shoulder pain', regardless of whether the patient is diagnosed with SIS. This is too big a leap of logic in my opinion.

The author then goes on to describe myofascial trigger points as a source of pain in the shoulder with unpublished work as the reference. The authors describe the 'biological plausibility' for the existence of myofascial trigger points. This section undermines the validity of the study.

Aims

The aim of this research was to assess the effectiveness of a Trigger Point (TrP) treatment program (of the shoulder muscles) on chronic non traumatic shoulder pain, compared to a wait and see approach.

Methods

Eligibility criteria were specified: all consecutive patients with at least 6 month history of shoulder pain referred to a primary care practice for physical therapy, excluding those previously diagnosed with shoulder instability, shoulder fractures, systemic diseases such as rheumatoid arthritis, Reiters Syndrome or diabetes, neurological or severe medical or psychiatric disorders, or primary frozen shoulder.

Subjects were randomly allocated using Research Randomiser software.

Allocation was concealed from the 2 research assistants (assessors)
The groups were similar at baseline except for number of latent MTrPs (higher in control group) .

Outcome Measures: DASH, VAS, RAND-36 (disability), Global Perceive Effect (1-8), Passive ROM, Beck Depression Inventory, total number of shoulder muscles with TrPs (17 muscles checked bilaterally). To test the null hypothesis with 90% power, 52 patients in each group were required. This was not achieved.

Blinding of subjects was impossible in this study as the control group intervention was a 'wait and see' approach where there was no placebo.

Intervention group were seen once weekly up to a maximum 12 weeks, when active TrP were released. Isometric hold relax stretches were used post treatment. Heat was advised twice a day. All patients received ergonomic and postural advice. No time frame for each session was supplied or no information regarding whether certain TrPs were prioritised over others was provided.

Treatment was deemed completed when :

-the patient was completely symptom free

-the patient and therapist agreed the treatment would not further benefit the patient

The wait and see group remained on a waiting list. They were instructed not to change their self management.

There wasn't blinding of therapists administrating the therapy- plus they also provides ergonomic advice, static stretching and relaxation exercises for the patients to do at home. They were also advised regarding using heat, hot showers or hot packs for muscle relaxation and pain relief twice a day. This advice was not given to the control group so this may have affected the results attributed to the MTrP therapy.

There was blinding of the assessors.

All subjects in both groups were included in the analysis on an 'intention to treat' basis.

Results

The number of subjects recruited was 72, when they had already described that they needed 104 for the power analyses for clinically relevant effects to be demonstrated. A total of 65 patients completed the study, as 3 withdrew, 3 developed frozen shoulder and one developed a cervical radiculopathy.

The DASH questionnaire: no statistically significant difference at 6 weeks; at 12 weeks there was a difference. 50% of intervention group Vs 22% control had improved by more than 10 points on the DASH (10= minimal clinical important difference).

Secondary outcomes: Intervention group were significantly lower after 12 weeks (reached the Minimally Clinically Important Difference) in all VAS scores than at baseline. They didn't report a P value for the difference between the control and intervention group.

The Global Perceived Effect (GPE): no statistical comparison reported between control and intervention group except to report the control group results. This might be because the numbers of participants wasn't high enough? 55% intervention group VS 14% of control group self reported to be improved.

There is then some analysis done on number of muscles with active trigger points- significantly lower in the intervention group than in the control group after 12 weeks. The change in the number of muscles with latent trigger points was not significant. The effect size was large for active trigger points but small for latent trigger points.

They then do some analysis on the correlation between the DASH questionnaire outcome at 12 weeks and the number of muscles with active trigger points (forgetting that the treatment included more than just the hands on treatment).

There was no significant difference in passive ROM between the groups at 12 weeks.

Discussion

In the discussion the authors acknowledge that the difference of the DASH scores between groups was smaller than the MCID. The effect size was 0.6, which is considered to be a medium effect that is clinically relevant.

Conclusions

The conclusions were biased towards effectiveness of the intervention.