13. Diseases of the Musculoskeletal and Connective Tissue

Reference

Inoue M, Nakajima M, Itoi M, et al. Comparison of the effectiveness of acupuncture treatment and local injection for low back pain - A randomized controlled clinical trial - *Nihon Onsen Kikou Butsuri Igakukai Zasshi* (*The Journal of the Japanese Society of Balneology, Climatology and Physical Medicine*) 2008; 71(4): 211–20 (in Japanese with English abstract). Ichushi Web ID: 2008333712

1. Objectives

To compare the clinical effects of local injection and local acupuncture treatment for low back pain.

2. Design

Randomized controlled trial (RCT).

3. Setting

Department of Orthopedic Surgery, the Meiji University of Integrative Medicine Hospital, Kyoto, Japan

4. Participants

Twenty-six outpatients who presented with low back pain between April 2006 and December 2007, received acupuncture therapy or local anesthetic injection for low back pain, and were suspected of suffering low back pain complications due to causes other than movement disorder were included, but not patients who received other treatment for low back pain within one month before commencement of the study (14 males; 12 females; average age in the two groups 70.8 and 73.6 years).

5. Intervention

Arm 1: Acupuncture. Stainless steel needles (0.18 x 40 mm, Seirin Co., Ltd.) were inserted to a depth of 10–20 mm at the most painful points (two to five points) in each patient's lower back, then after the patient experienced *de qi* (得気) sensation, sparrow pecking stimulation was applied (1 Hz, 20 s), and the needles were removed. Patients received treatment once a week on four occasions (n=13).

Arm 2: Local injection. 25 G hypodermic needles (0.5 x 25 mm, Terumo Corporation) were inserted to a depth of 10–20 mm at the most painful points (two to five points) in each patient's lower back and were removed after drug injection (NeoVitacain®, Neurotropin®). Patients received treatment once a week on four occasions (n=13).

6. Main outcome measures

Pain was evaluated (on a visual analog scale [VAS]) before and after the initial treatment, before each subsequent treatment, and at two and four weeks after completion of the treatment. The Roland-Morris Disability Questionnaire (RMDQ) was used for evaluation before the initial treatment, at completion of treatment, and then at two and four weeks after completion of treatment. The Pain Disability Assessment Scale (PDAS) was used for evaluation before the initial treatment, at completion of treatment, and then two and four weeks after completion of treatment.

7. Main results

Significant improvement in all measures in both Arm 1 and Arm 2 occurred over time (VAS: $P<0.0001$, $P=0.0156$, respectively; RMDQ: $P<0.0001$, $P=0.0188$, respectively; PDAS: $P<0.0001$, $P=0.0196$, respectively). VAS scores improved significantly in both arms immediately after treatment ($P<0.0001$, $P=0.0428$, respectively), but the size of the VAS change was significantly greater in Arm 1 ($P=0.0348$). Continued treatment showed significantly greater change in VAS score (comparing the scores before the initial treatment and before the fourth treatment) in Arm 1 ($P=0.0076$). The change in the RMDQ and the PDAS (comparing the scores before the initial treatment and after completion of the treatment) was also significantly greater in Arm 1 ($P=0.0024$, $P=0.0039$, respectively).

8. Conclusions

Acupuncture treatment is more effective than local injection for low back pain associated with degenerative change in elderly patients.

9. From acupuncture and moxibustion medicine perspective

Acupuncture treatment uses physical stimulation alone, while local injection uses a combination of physical stimulation and anesthesia. The difference between the effects in the two groups could be due to the differences between the mechanisms of pain suppression and it is possible that physical stimulation alone is more effective, depending on the type and severity of the pain.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study is of great interest because it compares acupuncture with local injection, a Western medical therapy for low back pain. The measures used are highly reliable and the outcomes are appropriately described. The findings of the study do not apply to low back pain in all age groups, including low back pain for reasons other than degeneration, as the subjects of the study were 70 years or older. Improving the quality of the RCT including sample size precomputation and blinding of participants to the intervention is desirable, however, low back pain is one of the most common chief complaints in acupuncture therapy, so use of a variety of approaches for clinical study design is anticipated.

"Comparison of the effectiveness of local injection and acupuncture treatment for low back pain - A randomized controlled clinical trial. *Nihon Seitai Denki Butsuri Shigeki Kenkyu Kaishi* (*The Journal of the Japanese Bio-Electrical and Physical Stimulation Research Society*) (Inoue et al., 2008; 22:1-6. JA0806)" deals with the same topic as is dealt with in this structured abstract.

12. Abstractor and date

Shichido T, Shimoichi Y, 11 September 2011.