

13. Diseases of the Musculoskeletal and Connective Tissue

Reference

Tsukayama H, Yamashita H, Amagai H, et al. Randomised controlled trial comparing the effectiveness of electroacupuncture and TENS for low back pain: a preliminary study for a pragmatic trial. *Acupuncture in Medicine* 2002; 20(4): 175–80. Pubmed ID: 12512791

1. Objectives

To compare the effectiveness of electro-acupuncture with that of transcutaneous electrical nerve stimulation (TENS) in patients with low back pain in a pragmatic setting.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

Tsukuba College of Technology Clinic, Tsukuba, Japan.

4. Participants

Twenty patients aged 20 years or older with low back pain for at least 2 weeks.

5. Intervention

Arm 1: Electro-acupuncture group. Electro-acupuncture was applied at 8 acupuncture points (4 acupuncture points each in the left and right) in the lower back down through the buttocks using disposable stainless steel needles (0.20×50 mm, 0.24×60 mm) in a pragmatic manner (standard practice at the Tsukuba College of Technology Clinic). The insertion depth was 20 mm and electro-stimulation was applied at a frequency of 1 Hz for 15 minutes. At the end of electro-stimulation, press tack needles were put on 4 out of the 8 points (n=10).

Arm 2: TENS group. Using gel-type disposable electrodes (20×30 mm), electro-stimulation was applied at the same 8 points under the same conditions as in Arm 1 (n=10).

One patient in Arm 1 dropped out due to influenza.

6. Main outcome measures

Pain relief rated on a visual analogue scale (VAS) before and daily for 2 weeks after the intervention.

Score for the Japanese Orthopaedic Association Back Pain Evaluation Questionnaire (JOA score) obtained before and at 3 days after the intervention.

7. Main results

VAS score was significantly lower at 2 weeks after the intervention and JOA score was more improved at 3 days after the intervention in Arm 1 than in Arm 2, but it was not statistically significant ($P=0.24$).

8. Conclusions

Electro-acupuncture is, in the short term, the more effective of the two techniques for low back pain.

9. From acupuncture and moxibustion medicine perspective

The authors pointed out the importance of conducting a comparative trial that employs individualized treatment, which is a part of daily clinical practice in Japan.

10. Safety assessment in the article

Mild adverse reactions were reported in 3 of 10 patients in Arm 1 (transient elevation of blood pressure, discomfort due to press tack needles, and mild subcutaneous bleeding) and 2 of 9 in Arm 2 (transient aggravation of low back pain, transient fatigue, and itching).

11. Abstractor's comments

This article describes a very well-designed trial comparing standard electrical therapy with electro-acupuncture and demonstrating the efficacy of acupuncture. The effort to conduct a pragmatic clinical trial is also appreciated.

However, as the authors noted in the text, sample size was small and no follow-up was carried out. Further studies are needed to establish reliability and external validity. A detailed description of how the therapy was individualized is desirable. Although the patients were randomly assigned, the trial was conducted at a clinic affiliated with a college of acupuncture and moxibustion, and therefore a concern about potential selection bias exists.

12. Abstractor and date

Wakayama I, 9 September 2011.