Acupuncture for spinal cord injury survivors in Chinese literature: a systematic review

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CRD summary
The authors concluded that there was suggestive evidence for the effectiveness of acupuncture as adjuvant therapy in spinal cord injury, but that the total number and quality of included trials was too low to draw firm conclusions. The review had some methodological problems, but the authors’ conclusions are suitably cautious and appear appropriate.

Authors' objectives
To review the Chinese literature on the effectiveness of acupuncture for treating patients with spinal cord injury.

Searching
The China National Knowledge Infrastructure (CNKI) was searched from inception to May 2008 for articles in English or Chinese. Search terms were reported. Reference lists of retrieved articles were handsearched.

Study selection
Prospective randomised controlled trials (RCTs) of needle acupuncture (with or without electrical stimulation) as a treatment for spinal cord injury (with or without operation) were eligible for inclusion. Trials comparing needle acupuncture with drugs or rehabilitation were also eligible for inclusion. Trials comparing two or more types of acupuncture, or including laser or injection acupuncture were excluded. Dissertations and abstracts were included if they provided sufficient detail.

The included trials considered the effects of electroacupuncture for the functional recovery of spinal cord injury, acute spinal cord injury, traumatic spinal cord injury and unspecified spinal cord injury. The comparators included physical therapy, drugs for urinary retention, and rehabilitation. Most studies compared electroacupuncture plus control treatment with control treatment alone.

The outcomes reported included functional independence measure, other functional measures, and total efficacy rate of bladder dysfunction.

Two authors independently performed study selection; disagreements were resolved through discussion and consultation with a third reviewer as necessary.

Assessment of study quality
Study quality was assessed using the PEDro scale (11 quality factors) and a modified Jadad scale (5 quality factors).

Two authors independently undertook the quality assessment; disagreements were resolved through discussion and consultation with a third reviewer as necessary.

Data extraction
Two authors independently extracted outcome and adverse event data according to pre-defined criteria; disagreements were resolved by discussion or consultation with a third reviewer if needed. Data on the total efficiency rate for bladder dysfunction was used to calculate risk ratios (RR) and 95% confidence intervals (CI).

Methods of synthesis
Key data were tabulated. A random-effects meta-analysis of the pooled risk ratio of bladder dysfunction was undertaken. Heterogeneity was assessed using $I^2$.

Results of the review
Seven trials were included in the review (415 participants). The number of included participants ranged from 30 to 72. The length of follow-up ranged from two weeks to six months. The average PEDro quality score ranged from 5 to 9 out of 11 points. Jadad scores varied from 0 to 3 out of 5 points. The main quality issues were: poorly described or inappropriate method of randomisation; lack of allocation concealment; and lack of blinding.
All trials reported positive effects of acupuncture on spinal cord injury functional recovery or urinary dysfunction. Meta-analysis of two trials (n=128 participants) indicated that electroacupuncture was associated with statistically less bladder dysfunction compared with control (RR 1.51, 95% CI 1.21 to 1.90; I^2=0%).

Only one trial reported adverse events, which did not note any adverse events during the three month trial.

**Authors’ conclusions**
The results of the review provided suggestive evidence for the effectiveness of acupuncture as adjuvant therapy in spinal cord injury, but the total number and quality of included RCTs was too low to draw firm conclusions.

**CRD commentary**
Inclusion criteria for the review were broadly defined. One platform (that contained several databases, including studies reported as dissertations or conference proceedings) was searched for trials in English or Chinese. Limiting the search to Chinese literature may have resulted in the omission of other relevant studies; publication bias was not assessed. Two authors independently undertook study selection, data extraction and quality assessment, which should minimise error and bias in the review.

The quality assessment indicated the poor quality of the included trials, which the authors acknowledged. Two trials were combined using meta-analysis, which may not have been appropriate as both trials scored 1 out of 5 on the Jadad scale and each used a different control.

Overall, the review had some methodological problems, but the authors’ conclusions were suitably cautious and appear appropriate.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further rigorous RCTs are needed to overcome the limitations in the current evidence.

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