Effectiveness of acupuncture for stroke: a systematic review

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Authors' objectives
To summarise and critically review all randomised controlled trials (RCTs) of the effectiveness of acupuncture as a treatment for stroke.

Searching
Searches of MEDLINE (from 1969 to 1999), the Cochrane Controlled Trials Register (Issue 2, 1999), EMBASE (from 1988 to 1999) and CISCOM (1999) were conducted in June 1999 using the terms 'acupuncture' 'electrotherapy', 'stroke' and 'cerebrovascular disorders'. Third-party searches of Chinese, Japanese and Korean databases, library catalogues and journals were commissioned. The reference lists and the authors' own files were also searched.

Study selection
Study designs of evaluations included in the review
Any prospective RCT, where stroke patients were randomised to either needle-insertion acupuncture or a control treatment, were eligible for inclusion.

Specific interventions included in the review
Any form of needle-insertion acupuncture, with or without electrical stimulation. The control interventions included sham electroacupuncture, routine care and rehabilitation alone.

Participants included in the review
Stroke. A total of 538 stroke patients, ranging from acute to 60 days post-onset, were included.

Outcomes assessed in the review
The outcome measures used included: the Scandinavian Stroke Scale, the Chinese Stroke Scale or Recovery Measure, the Barthel index, the Nottingham Health Profile, Activities of Daily Living, motor function, balance, and days in hospital.

How were decisions on the relevance of primary studies made?
Decisions on the inclusion and exclusion of the studies were made by discussion between the first two authors, arbitrated in one instance by the other two.

Assessment of study quality
The studies were rated for their reporting of randomisation, blinding and attrition, using the scale of Jadad et al. (see Other Publications of Related Interest). The studies were validated independently by two reviewers using the Jadad scale. There were no disagreements.

Data extraction
The data were extracted independently by two reviewers using predefined criteria. The following categories of data were presented: size of treatment and control groups; days post-onset; type of intervention; number of sessions; duration of treatment (weeks); type of control treatment; outcome measures; details of follow-up; statistical tests used; design; result of primary outcome versus control (p-value); Jadad score; and adverse events.

Methods of synthesis
How were the studies combined?
A narrative summary of each trial was given. The initial intention to perform a meta-analysis was abandoned due to
heterogeneity of the outcome measures, and a lack of methodological detail in several studies.

**How were differences between studies investigated?**
The investigation of differences between the studies was hampered by the general heterogeneity of treatments (intervention and control) and outcome measures, and by the poor reporting of design factors in several studies. The difference between electrical and manual stimulation of acupuncture points could not be explored.

**Results of the review**
Nine studies (n=538) were eligible for inclusion. Of these, 7 used electrical stimulation with variable frequency (2 of which combined manual stimulation with electrical current), and 2 used manual stimulation only.

Six trials (Jadad score of 2 or less) reported significant improvements in the primary outcomes after acupuncture for stroke. Three trials (Jadad scores of 1, 3 and 5) found no significant improvement.

**Authors’ conclusions**
There was no compelling evidence from rigorous randomised trials to show that acupuncture is effective in stroke rehabilitation. Further better-designed studies are warranted.

**CRD commentary**
The review was based on a clear question, conducted according to a rigorous protocol, and reported clearly. The authors' conclusion seems appropriate.

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

Research: The authors call for better-designed studies of acupuncture for stroke rehabilitation to be conducted.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.