Acupuncture treatment in gastrointestinal diseases: a systematic review

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CRD summary
This review evaluated the effectiveness of acupuncture in gastrointestinal diseases and concluded that improved quality of life in irritable bowel syndrome may be explained by unspecific effects of acupuncture. Similar effects in inflammatory bowel disease may be found in clinical scores. Given methodological limitations of the review and the relatively small amount of poor-quality evidence, the conclusions appear overly optimistic.

Authors' objectives
To evaluate the effectiveness of acupuncture treatment in gastrointestinal diseases.

Searching
MEDLINE was searched for relevant studies from inception to May 2006. Bibliographies of retrieved studies and relevant review articles were searched. Search terms were reported. English-, German- and French-language articles were considered.

Study selection
Articles were eligible for inclusion in the review if they reported a clinical trial in which patients with gastrointestinal disorders were treated with acupuncture point stimulation. Articles not presenting the full report of a clinical trial were excluded.

Selected studies included randomised and non-randomised controlled trials and uncontrolled before-and-after studies. Gastrointestinal disorders treated in these trials included irritable bowel syndrome, functional dyspepsia, ulcerative colitis, Crohn's disease, gastroparesis, chronic superficial gastritis, chronic obstruction, stomach carcinoma pain and achalasia.

Included studies gave participants between one and 20 sessions. Treatment duration lasted up to two months. Outcomes measured included: quality of life, symptoms, perception threshold, serum parameters, analgesic effects and imaging findings.

The authors stated neither how the papers were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
The methodological quality of included studies was evaluated using the following criteria: existence of a control group; randomisation; blinding of patients and evaluators; statistical protocol; description of drop-outs; a-priori sample size calculation; and a-priori definition of primary and secondary outcomes.

It appeared that validity was assessed separately by two reviewers.

Data extraction
Key study characteristics were separately extracted from the included studies by two reviewers.

Methods of synthesis
The included studies were combined in a narrative synthesis and grouped by type of gastrointestinal disorder: irritable bowel syndrome, inflammatory bowel disease and other gastrointestinal disorders.

Results of the review
Eighteen studies (n=789) were included in the review, of which four (n=182) were robust randomised controlled trials (RCTs). The remaining studies were considered to be of poor methodological quality.
**Irritable bowel syndrome:** Seven studies were conducted in patients with irritable bowel syndrome, two of which were RCTs. Both RCTs reported a significant improvement in health-related quality of life for both acupuncture and control groups, with no significant difference between acupuncture and control. Of the five non-randomised studies, three had serious methodological problems that precluding suitable conclusions: one found that rectal hypersensitivity was reduced by both electro-acupuncture and non-penetrating sham-acupuncture; and one found similar improvements for acupuncture and drug treatment in patients with functional dyspepsia.

**Inflammatory bowel disease:** Four studies were conducted in inflammatory bowel disease (three in ulcerative colitis and one in Crohn's disease). One study in ulcerative colitis and one in Crohn's disease found acupuncture to be superior to penetrating sham-acupuncture in terms of disease activity scores, but not health-related quality of life or symptom scores (although health-related quality of life and symptoms improved from baseline in both groups). The remaining two studies found acupuncture with moxibustion or tapping with plum-blossom needles superior to sulfasalazine treatment in terms of symptoms in patients with ulcerative colitis; both studies had substantial methodological limitations.

**Other gastrointestinal disorders:** Two studies evaluated acupuncture in patients with diabetic gastroparesis. One study reported that acupuncture was superior to domperidone treatment in terms of symptoms. Another study reported significant changes in electrogastrography and serum parameters after acupuncture (no clinical effects were reported). One uncontrolled study in eight patients with chronic constipation found no impact of acupuncture on stool frequency or colonic transport times, although all patients stated a substantive improvement after treatment. One study found acupuncture treatment according to ancient theories superior to individual acupuncture in terms of syndrome differentiation. One study reported significantly higher markedly effective rates for individual acupuncture and acupoint injection than for analgesics in patients with stomach carcinoma pain; all patients similarly improved in health-related quality of life. One study reported significantly superior therapeutic effects of acupuncture compared to sedatives for achalasia. Four studies were reported to have severe methodological defects.

**Authors' conclusions**

Efficacy of acupuncture related to health-related quality of life in irritable bowel syndrome may be explained by unspecific effects. This is the same for health-related quality of life in inflammatory bowel disease. Specific acupuncture effects may be found in clinical scores.

**CRD commentary**

The review question was defined in terms of the interventions, participants and broad study designs of interest. The search for relevant papers covered only a single database and follow-up of references and appeared to be restricted to published studies written in English, German and French, so it was possible that relevant studies were missed. It was also unclear whether attempts were made to minimise the potential for errors and bias in the selection of studies for the review. The authors stated that they assessed validity according to predefined criteria. Some aspects of this assessment were presented alongside other study characteristics in the text and tables of the review. The use of a narrative synthesis appeared appropriate given the clinical heterogeneity of the included studies. Given the limitations and the relatively small amount of poor-quality evidence found in the review, the authors conclusions appeared to be overly optimistic.

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