Helping the Hurt:
Acupuncture for Tennis Elbow

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Lateral elbow pain, (also known as lateral epicondylitis or tennis elbow) is a common condition causing pain in the elbow and forearm as well as lack of strength and function of the elbow and wrist.

The history of acupuncture dates back over 2,000 years and is just one component of Traditional Chinese Medicine (TCM). It has become increasingly popular with Western medical doctors and is a modality sometimes used in modern pain clinics.

Other applications

Acupuncture points can stimulated by either transcutaneous nerve stimulation (TENS) or shiatsu, a Japanese massage therapy that applies finger pressure to the acupuncture points. Sometimes in TCM, the herb mugwort is burned over acupuncture points (known as moxibustion).

What does the research show?

In a randomized, investigator- and patient-blinded, controlled clinical study by Fink, *et al*,[1] 23 patients were treated with acupuncture while 22 patients received sham acupuncture. Each patient received a total of 10 treatments administered twice per week. The primary outcome variables were maximal strength, pain intensity (verbal rating scale) and disability scale (*i.e.*, disabilities of the arm, shoulder and hand questionnaire). Patients were examined one week before the start of treatment and at follow-up two weeks and then two months after the end of treatment. At the two-week follow-up there was significantly greater improvement for all outcome parameters in the group treated with real acupuncture. At two months time, the function of the arm was still better in this group than in the sham acupuncture group, but the differences in pain intensity and maximal strength between the groups were no longer significant.

In a second randomized, examiner- and patient-blinded controlled clinical study of 45 patients by Fink, *et al*,[2] half received acupuncture where the points were mechanically stimulated and half of the patients received sham treatment at non-acupuncture points twice a week for 10 sessions. The outcome measurement included pain at rest, pain on movement, pain on exertion, frequency of pain and duration of pain. At two weeks, two months and one year after the end of treatment, significant reductions in all pain variables (compared to baseline) were noted. At the first follow-up two weeks after treatment, significant group differences were registered for pain on motion and pain on exertion in favour of the real acupuncture group. However, these differences in pain intensity between the groups were no longer significant at the two month follow-up and then at the 12 month follow-up.

Cochrane collaboration review

Four small randomized controlled trials (RCTs) were also analyzed in a Cochrane review,[3] but due to flaws in study designs (*i.e.*, particularly small populations, uncertain allocation concealment and substantial loss to follow-up) and clinical differences between trials, data from these trials could not be combined in a meta-analysis.

One RCT found that needle acupuncture resulted in relief of pain for significantly longer periods of time than did placebo and was more likely to result in a ≥ 50% reduction in pain after one treatment. Patients in the acupuncture treatment group were treated at non-segmental distal points

(homolateral leg) for elbow pain following Chinese acupuncture rules, whereas patients in the placebo group were treated with placebo acupuncture avoiding penetration of the skin with an acupuncture needle. Overall reduction in the pain score was 55.8% in the treatment group and only 15% in the placebo-treated group. After one treatment, 19 out of 24 patients in the treatment group reported pain relief of at least 50% compared to only six out of 24 patients in the placebo-treated group. The duration of analgesia after one treatment was 20.2 hours in the acupuncture-treated group and 1.4 hours in the placebo-treated group.

Another RCT demonstrated needle acupuncture to be more likely, in the short-term, to result in overall participant-reported improvement than placebo. No significant differences were found in the long-term after three or 12 months.

A RCT of laser, measuring the benefit of acupuncture vs. placebo, demonstrated no differences with respect to overall benefit.

A trial published in Chinese demonstrated no difference between vitamin B12 injection plus acupuncture and vitamin B12 injection alone.

Conclusions

The reviewers concluded that "there [was] insufficient evidence to either support or refute the use of acupuncture (either needle or laser) in the treatment of lateral elbow pain."

Systemic review

Of the six studies that were included in the systemic review by Trinh, *et al*,[4] acupuncture was found to be effective in relieving lateral epicondyle pain.

Five of the six studies indicated that acupuncture treatment was more effective compared to a control treatment.

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The four trials comparing acupuncture with sham acupuncture indicated that acupuncture treatment was more effective in alleviating lateral epicondylitis. Using the Jadad scale, all of these studies were considered to be of high quality.

Final thoughts

There is evidence that acupuncture can relieve tennis elbow pain in the short-term. However, there is a paucity of RCTs available and lateral epicondylitis can be a self-limiting condition anyway.

Acupuncture treatment recovery could depend on the expertise of the acupuncturist, which points were chosen, whether TENS or moxibustion were used and the severity of the condition.

It is interesting to note that another Cochrane review found short-term evidence that topical non-steroidal anti-inflammatory drugs (NSAIDs) are significantly more effective than placebo with respect to elbow pain. There is also some evidence for the short-term benefit of oral NSAIDs and cortisone injections with respect to pain and function, but the benefits for all of these treatments were not sustained. Significantly more adverse GI effects were reported by those taking oral NSAIDs. The reviewers concluded that there remains insufficient evidence to recommend or discourage the use of oral NSAIDs for elbow pain.

Other systemic reviews of conventional treatments of elbow pain found inconclusive evidence of the benefits of any treatment modalities. Dx

References
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