

Research Snapshots

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ELECTROACUPUNCTURE REDUCES OPIOID-LIKE MEDICATION

BACKGROUND: The use of opioid-like medication (OLM) in chronic non-malignant pain has increased greatly in the last 10 years. Such medications are associated with high incidences of adverse effects and are not always effective.

OBJECTIVE: This study examined whether OLM consumption used for various types of chronic pain could be reduced using electroacupuncture (EA).

DESIGN/SETTING/SUBJECTS: This is a single-site, 20-week pilot, randomised, single blind, sham EA controlled study with 35 participants, who were assessed according to the Classification of Chronic Pain.

INTERVENTION: Participants were randomly allocated to receive either real EA (REA) or sham EA (SEA). Both groups received treatment twice weekly for six weeks with follow-up at week 20.

OUTCOME MEASURES: Primary measures were the dosage of OLM, type and incidence of related side effect, and pain intensity measured using visual analogue scales. Secondary measures were McGill Pain Questionnaire, Quality of Life and Beck Depression Inventory.

RESULTS: At week 8 in both groups OLM consumption was significantly reduced ($F(2,66) = 18.4, p < 0.001$), this reduction was 39% in the REA group and greater than 25% in the SEA. Over time the group difference was not

statistically significant but showed a trend toward a more rapid reduction in OLM of the REA group ($F(2,66) = 3.0, p = 0.056$). Side effect incidents with OLM were reduced by 40% and 45% in the REA and SEA groups respectively.

CONCLUSION: In the short-term, this pilot study showed that EA could be an effective and safe approach to reduce opioid consumption and related OLM side effects.

Zheng Z, Guo RXJ, Helme RD, Muir A, Da Costa C, Xue CCL. The effect of electroacupuncture on opioid-like medication consumption by chronic pain patients: a pilot randomized controlled clinical trial. Eur J Pain 2008;12(5):671-6.

EDITOR'S NOTE: This study was partially funded by an AACMA research grant. A study with a large sample size has received an NHMRC project grant in 2009 and will be conducted in Melbourne in the next three years.

John Deare

fMRI CHANGES AND SALIVA PRODUCTION ASSOCIATED WITH ACUPUNCTURE

BACKGROUND: This study looked at the use of acupuncture on LI2 *Erjian* to stimulate saliva and reduce xerostomia (dry mouth). The authors were interested in exploring the neuronal substrates in such responses.

METHODS: A randomised, single-blinded, sham acupuncture controlled

study of 20 healthy volunteers who received either real or sham acupuncture in random order. Cortical regions that were activated or deactivated during the interventions were evaluated by functional magnetic resonance imaging (fMRI). Saliva production was also measured.

RESULTS: Unilateral manual acupuncture stimulation at LI2 *Erjian*, a point commonly used in clinical practice to treat xerostomia, was associated with bilateral activation of the insula and adjacent operculum. Sham acupuncture at an adjacent site induced neither activation nor deactivation. Real acupuncture induced more saliva production than sham acupuncture.

CONCLUSION: Acupuncture at LI2 *Erjian* was associated with neuronal activation that appears to be correlated to saliva production.

Deng G, Hou BL, Holodny AI, Cassileth BR. Functional magnetic resonance imaging (fMRI) changes and saliva production associated with acupuncture at LI-2 acupuncture point: a randomized controlled study. BMC Complement Altern Med 2008;8:37.

This paper is available free from BioMed Central: www.biomedcentral.com.

John Deare

ACUPUNCTURE FOR LOW BACK PAIN AND LOWER LIMB SYMPTOMS

BACKGROUND: This study investigated the clinical efficacy of acupuncture

for lumbar spinal canal stenosis and herniated lumbar disc. It also aimed to assess if such treatments increased the blood flow of the sciatic nerves in animals.

METHODS: This study was neither blinded nor randomised. In the clinical trial, patients with lumbar spinal canal stenosis or herniated lumbar disc were diagnosed using MRI, CT or X-ray. They were then divided into three treatment groups, (i) Ex-B2 *Jiaji* (at the disordered level), (ii) electroacupuncture (EA) on the pudendal nerve, and (iii) EA on the nerve root guided by X-ray fluoroscopy (which is similar to the technique of spinal nerve root block).

OUTCOMES: Primary outcome measurements were pain and dysaesthesia using visual analogue scale and continuous walking distance. In the animal study, sciatic nerve blood flow was measured with a laser-Doppler flowmeter before and during the three kinds of stimulation (manual acupuncture on lumbar muscle, EA on the pudendal nerve and EA on the sciatic nerve) in anaesthetised rats

RESULTS: For the clinical trial, approximately half of the patients who received Ex-B2 *Jiaji* experienced relief of the symptoms. EA on the pudendal nerve was effective for the symptoms that were not improved by manual acupuncture on Ex-B2 *Jiaji*. Considerable immediate and sustained relief was observed in patients who received EA at the nerve root.

For the animal study, increased blood flow in the sciatic nerve was observed in 56.9% of the trial with manual acupuncture, 100% with pudendal nerve EA stimulation and 100% with sciatic nerve EA stimulation. Sciatic nerve stimulation sustained the increase longer than pudendal nerve stimulation.

CONCLUSION: The authors hypothesised that in addition to its

influence on the pain inhibitory system, EA stimulation also caused a transient change in sciatic nerve blood flow, including circulation to the cauda equine and nerve root.

Inoue M, Kitakoji H, Yano T, Ishizaki N, Itoi M, Katsumi Y. Acupuncture treatment for low back pain and lower limb symptoms – the relation between acupuncture or electroacupuncture stimulation and sciatic nerve blood flow. Evid Based Complement Alternat Med 2008;5(2):133–43.

This paper is available free from eCAM: <http://ecam.oxfordjournals.org>.

EDITOR'S NOTE: Direct EA on the nerve root or trunks is not recommended in general acupuncture practice. Please note that in the current study, EA on the nerve root was guided by X-ray fluoroscopy. The authors did not report any side effects. **We strongly advise our readers not to perform such treatments in their private clinics.**

John Deare

DOES ACUPUNCTURE USED IN NULLIPAROUS WOMEN REDUCE TIME FROM PRELABOUR RUPTURE OF MEMBRANES AT TERM TO ACTIVE PHASE OF LABOUR?

BACKGROUND: The aim of this study was to evaluate whether acupuncture influenced the onset of labour, and the need for induction among women with prelabour rupture of membranes (PROM) among nulliparous women.

METHODS: 106 women with PROM were randomised to acupuncture or the control group. The study outcomes were the time from PROM to the onset of active labour, the rate of induction after two days, and women's wellbeing.

RESULTS: There was no difference between groups from time of PROM to the active phase of labour, the need

for induction, or in women's sense of wellbeing. No adverse effects were reported.

CONCLUSION: Acupuncture treatment used for nulliparous women with PROM showed no effect in reducing the time to active labour, or in reducing the rates of induction. There were no changes in women's sense of wellbeing, but the treatment was considered positively while women waited for labour to start.

Selmer-Olsen T, Lydersen S, Mørkved S. Does acupuncture used in nulliparous women reduce time from prelabour rupture of membranes at term to active phase of labour? A randomised controlled trial. Acta Obstet Gynecol Scand 2007;86(12):1447–52.

Caroline Smith

ACUPUNCTURE IMPROVES PREGNANCY AND BIRTH RATES

OBJECTIVES: This systematic review and meta-analysis evaluated whether acupuncture improves the rates of pregnancy and live birth when used as an adjunct treatment to embryo transfer among women undergoing an embryo transfer.

METHODS: Literature was searched from Medline, Cochrane Central, Embase and Chinese Biomedical Database. Studies included were randomised controlled trials that compared acupuncture administered within one day of embryo transfer with sham acupuncture, or no treatment, and which reported on the outcomes – clinical pregnancy, ongoing pregnancy or live birth rate. Two reviewers assessed the methodological quality of trials, and extracted trial data.

RESULTS: Seven trials were included with 1366 women. The trials used similar clinical treatment protocols. Studies using sham acupuncture and no adjunct treatment were analysed

together. The meta-analysis found the use of acupuncture was associated with a significant increase in the clinical pregnancy rate (odds ratio OR 1.65, 95%CI 1.27 to 2.14), the number needed to treat (NNT) with acupuncture to achieve an extra pregnancy was 10, an increase with ongoing pregnancy (OR 1.87, 95%CI 1.40 to 2.49), NNT 9, and an increase in live birth (OR 1.91, 95%CI 1.39 to 2.64), NNT 9 (4 trials). Pre-specified analysis of a subgroup of data restricted to three trials with the

higher pregnancy rates in the control groups found a smaller non-significant benefit from acupuncture (OR 1.24, 95%CI 0.86 to 1.77) suggesting acupuncture was not as affective.

CONCLUSION: Current evidence suggests that acupuncture administered on the day of embryo transfer improves clinical pregnancy and live birth rates for women undergoing in-vitro fertilisation.

Manheimer E, Zhang G, Udoff L, Haramati A, Langenberg P, Berman BM, et al. Effects of acupuncture on rates of pregnancy and live birth among women undergoing in vitro fertilisation: systematic review and meta-analysis. Br Med J 2008;336(7643):545-9.

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