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Randomized, placebo-controlled trial of K1 acupoint acustimulation to prevent cisplatin-induced or oxaliplatin-induced nausea.

<http://www.ncbi.nlm.nih.gov/pubmed/25204437>

Cancer 2015; 121(1): 84-92

By Shen Y

Abstract

BACKGROUND:

Greater than 70% of patients with cancer experience chemotherapy-induced nausea and vomiting. In the current study, the authors examined the effects of electrostimulation of the K1 acupoint located on the sole of the foot because it is believed to have the potential to control chemotherapy-induced nausea and vomiting.

METHODS:

In this trial, 103 patients diagnosed with primary or metastatic liver cancer were recruited before transcatheter arterial infusion (TAI) of cisplatin or oxaliplatin and randomized to either group A (51 patients who were treated with the antiemetic tropisetron and acustimulation at the K1 acupoint for 20 minutes approximately 1 to 2 hours before TAI on the first day and then daily for the subsequent 5 days) or group B (52 patients who

were treated with tropisetron and electrostimulation at a placebo point on the heel). The rate, intensity, and duration of nausea and vomiting were collected at baseline and then daily for 5 days after TAI. Quality of life was assessed daily using the MD Anderson Symptom Inventory and the EuroQoL scale.

RESULTS:

No differences were found between groups A and B with regard to the incidence and degree of nausea or vomiting on day 1 or the following 5 days. Patients in group A had better EuroQoL scores compared with patients in group B (72.83 in group A vs 65.94 in group B; $P = .04$) on day 4 but not on the other days. No group differences were noted at any time point for MD Anderson Symptom Inventory scores.

CONCLUSIONS:

Electrostimulation of K1 combined with antiemetics did not result in initial prevention of cisplatin-induced or oxaliplatin-induced nausea or vomiting.

Electroacupuncture for fatigue, sleep, and psychological distress in breast cancer patients with aromatase inhibitor-related arthralgia: a randomized trial.

<http://www.ncbi.nlm.nih.gov/pubmed/25077452>

Cancer 2014; 120 (23): 3744-51

By Mao JJ

Abstract

BACKGROUND:

Although fatigue, sleep disturbance, depression, and anxiety are associated with pain in breast cancer patients, it is unknown whether acupuncture can decrease these comorbid symptoms in cancer patients with pain.

The objective of this study was to evaluate the

effect of electroacupuncture (EA) on fatigue, sleep, and psychological distress in breast cancer survivors who experience joint pain related to aromatase inhibitors (AIs).

METHODS:

The authors performed a randomized controlled trial of an 8-week course of EA compared with a waitlist control (WLC) group and a sham acupuncture (SA) group in postmenopausal women with breast cancer who self-reported joint pain attributable to AIs. Fatigue, sleep disturbance, anxiety, and depression were

measured using the Brief Fatigue Inventory (BFI), the Pittsburgh Sleep Quality Index (PSQI), and the Hospital Anxiety and Depression Scale (HADS). The effects of EA and SA versus WLC on these outcomes were evaluated using mixed-effects models.

RESULTS:

Of the 67 randomly assigned patients, baseline pain interference was associated with fatigue (Pearson correlation coefficient $[r]=0.75$; $P < .001$), sleep disturbance ($r=0.38$; $P=.0026$), and depression ($r=0.58$; $P < .001$). Compared with the WLC condition, EA produced significant improvements in fatigue ($P=.0095$), anxiety

($P=.044$), and depression ($P=.015$) and a nonsignificant improvement in sleep disturbance ($P=.058$) during the 12-week intervention and follow-up period. In contrast, SA did not produce significant reductions in fatigue or anxiety symptoms but did produce a significant improvement in depression compared with the WLC condition ($P=.0088$).

CONCLUSIONS:

Compared with usual care, EA produced significant improvements in fatigue, anxiety, and depression; whereas SA improved only depression in women experiencing AI-related arthralgia.

Effect of blinding with a new pragmatic placebo needle: a randomized controlled crossover study.

<http://www.ncbi.nlm.nih.gov/pubmed/25501074>

Medicine (Baltimore) 2014; 93 (27): e200

By Liu B

Abstract

Placebo control is a useful method for determining the efficacy of a therapy. In acupuncture researches, the preferred method for placebo control is acupuncture using a placebo needle that has a blunt tip and achieves no skin penetration. We performed a crossover study to validate the blinding effect of a new type of placebo needle. Sixty volunteers were randomized to receive acupuncture using 2 types of needles with different sequences: sequence AB, involving first the pragmatic placebo needle and then the real needle, and sequence BA, in a reverse order. Placebo acupuncture was performed by administering the placebo needle through an adhesive pad without skin penetration on the acupoints LI4, RN12, BL25, and BL36. Real acupuncture was performed by needling through the pad and penetrating the skin to 15 mm using a real needle on the same acupoints. The acupuncture was administered every other day with 3 sessions for 1 type of needle. The primary outcome was the perception of needle penetration. Besides degree of acupuncture pain,

type, and degree of needle sensation, needle acceptability and factors influencing the subject blinding effect were assessed. Needle penetration was felt by 100%, 90% (54/60), 88.3% (53/60), and 95% (57/60) of volunteers receiving placebo acupuncture and 98.3% (59/60), 96.7% (58/60), 95% (57/60), and 95% (57/60) of volunteers receiving real acupuncture on LI4, RN12, BL25, and BL36, respectively. Differences of the volunteers' perception of needle penetration between the placebo needle and real needle were not significant for the 4 acupoints (all $P > 0.05$). Volunteers experienced fewer distension sensations ($P = 0.01$), a lower degree of needle sensation ($P = 0.007$), and less pain ($P = 0.006$) during placebo acupuncture than during real acupuncture. The placebo needle was more easily accepted than the real needle (OR = 1.63, 95% CI, 1.01-2.64). The influences of age, sex, educational level, acupuncture experience, needle sensation, acupuncture pain, and needle acceptability on volunteers' perception of needle penetration were not significant. The pragmatic placebo needle is a valid control for acupuncture research. It produces a good subject blinding effect with a similar appearance to conventional acupuncture needles and no skin penetration when applied.

Spinal p38 activity and analgesic effect after low- and high-intensity electroacupuncture stimulation in a plantar incision rat model.

<http://www.ncbi.nlm.nih.gov/pubmed/25744405>

Life Sci 2015; 128: 15-23

By Hsu SF

Abstract

AIMS:

Postoperative pain is a major problem. Electroacupuncture (EA) has been accepted as a useful and low-risk complementary therapy for post-operative pain. Animal studies indicate that surgical incision activates p38 MAPK in the spinal microglia, which critically contributes to post-incisional nociceptive development. How EA affects incision-induced p38 activation is important but yet to be fully elucidated.

METHODS:

Male adult rats received plantar incision (PI) at the right hind paw followed by 30-min EA of 4-Hz, one of two intensities (3 and 10mA), and at right ST36 (Zusanli) acupoint immediately after PI and for 3 successive days. EA analgesia was evaluated by von Frey fibers and Hargreaves' tests. Spinal p38 activation was examined by

immunostaining. In separate groups, SB203580, a p38 inhibitor, was intrathecally injected alone or with EA to test the combining effect on nociception and spinal phospho-p38.

KEY FINDINGS:

EA of 10-mA significantly ameliorated mechanical allodynia, but 3-mA did not. None of them altered thermal hyperalgesia. Repeated EA could not inhibit phospho-p38 in the PI rats, contrarily, EA per se significantly induced phospho-p38 in the normal rats. Intrathecal SB203580 injection dose-dependently prevented PI-induced allodynia. Combination of low-dose SB203580 and 3-mA EA, which were ineffective individually, profoundly reduce post-PI allodynia.

SIGNIFICANCE:

We demonstrated that 10-mA EA exerts a significant inhibition against post-PI mechanical hypersensitivity via a p38-independent pathway. Importantly, co-treatment with low-dose p38 inhibitor and 3-mA EA can counteract spinal phospho-p38 to exert strong analgesic effect. Our finding suggests a novel strategy to improve EA analgesic quality.

Differential cerebral response to somatosensory stimulation of an acupuncture point vs. two non-acupuncturepoints measured with EEG and fMRI.

<http://www.ncbi.nlm.nih.gov/pubmed/25741269>

Front Hum Neurosci 2015; 9: 74

By Till Nierhaus

Abstract

Acupuncture can be regarded as a complex somatosensory stimulation. Here, we evaluate whether the point locations chosen for a somatosensory stimulation with acupuncture needles differently change the brain activity in

healthy volunteers. We used EEG, event-related fMRI, and resting-state functional connectivity fMRI to assess neural responses to standardized needle stimulation of the acupuncture point ST36 (lower leg) and two control point locations (CP1 same dermatome, CP2 different dermatome). Cerebral responses were expected to differ for stimulation in two different dermatomes (CP2 different from ST36 and CP1), or stimulation at the acupuncture point vs. the control points. For

EEG, mu rhythm power increased for ST36 compared to CP1 or CP2, but not when comparing the two control points. The fMRI analysis found more pronounced insula and S2 (secondary somatosensory cortex) activation, as well as precuneus deactivation during ST36 stimulation. The S2 seed-based functional connectivity analysis revealed increased

connectivity to right precuneus for both comparisons, ST36 vs. CP1 and ST36 vs. CP2, however in different regions. Our results suggest that stimulation at acupuncture points may modulate somatosensory and saliency processing regions more readily than stimulation at non-acupuncture point locations. Also, our findings suggest potential modulation of pain perception due to acupuncture stimulation.

Acupuncture accelerates recovery after general anesthesia: a prospective randomized controlled trial.

<http://www.ncbi.nlm.nih.gov/pubmed/25797640>

J Integr Med. 2015; 13 (2): 99-104

By Gemma M

Abstract

BACKGROUND:

Acupuncture anesthesia was created in the 1950's in China and continues to be used there today during most major surgeries. It is widely used in China for such complex operations as brain, heart, and abdominal surgery. It is popular in China because it is economical, practical, and beneficial to the patients. With acupuncture anesthesia there is less bleeding during surgery and there is also quicker post-operative recovery.

OBJECTIVE:

This randomized prospective study aims at comparing the effect of two acupoints (Yongquan, KI1 and Renzhong, DU26) with sham acupuncture and no acupuncture on the time to recovery of consciousness after general anesthesia by means of the Bispectral Index monitor (BIS).

DESIGN, SETTING, PARTICIPANTS AND INTERVENTIONS:

This is a prospective randomized controlled study. We randomly assigned 50 patients to 5 groups during recovery from surgical anesthesia. Four groups had acupuncture on KI1 (group A), DU26 (groups B), both KI1 and DU26 (group C), and

sham points (group D), and one had no acupuncture (group E).

MAIN OUTCOME MEASURES:

Bispectral Index (BIS), time to spontaneous eye opening, time to tracheal extubation, and time to following commands were measured as the main outcome measures.

RESULTS:

Time to spontaneous eye opening differed among groups ($P=0.002$), as well as time to tracheal extubation ($P<0.0001$) and time to following commands ($P=0.0006$). BIS values differed significantly among groups both 5 and 10 min after the end of anesthesia ($P<0.0001$ and $P=0.0004$, respectively). BIS values of groups D and E were lower than those of the other groups and those of group C were higher. The same pattern was observed also 15 and 30 min after the end of anesthesia, although the difference among groups was not significant at these time points ($P=0.164$ and $P=0.104$, respectively).

CONCLUSION:

Acupuncture on DU26 and KI1 accelerates recovery of consciousness after general anesthesia. Moreover, a possible synergistic effect of DU26 and KI1 is suggested. This issue may play a role in the optimization of operating room management and raise interest about the usefulness of acupuncture on unconsciousness states of different nature.

Efficacy comparison between Chinese medicine's labor inducement methods and conventional methods customary in hospitals

<http://www.ncbi.nlm.nih.gov/pubmed/25796676>

Harefuah 2015; 154 (1): 47-51, 67, 66

By Amir N

Abstract

INTRODUCTION:

According to Chinese medicine, a correct balance of Qi (energy) and quantity of blood are vital in order to commence labor and continue the childbirth process. Correspondingly, there are two main reasons for a delayed or difficult childbirth: lack of Qi and blood or stagnation of Qi and blood.

AIM:

Efficacy comparison of Chinese medicine's inducement methods to conventional methods and to the combination of both.

METHODS:

Retrospective study with 80 women participating aged 22-40, who required labor inducement. The study group consisted of 50 women who received Chinese medicine's inducement treatment (Shiatsu and/or Acupuncture) prior to and/or during hospitalization. The control group consisted of 30 women who received customary hospital labor inducement methods. All the women received the questionnaires between one month to 10 years after childbirth.

RESULTS:

Significant correlation was found between Chinese medicine inducement methods (Shiatsu/Acupuncture) and reduction of additional interventions throughout the birth process, when these were given during hospitalization ($\chi^2=47.29$, d.f.=21, $p=0.001$). Correlation close to significant was found when inducement was given prior to hospitalization, especially when labor was induced by Shiatsu ($\chi^2=16.8$, d.f.=9, $p=0.052$). An outstanding difference was found in shortening the birth

process time ($MS=0.45$, $F(6,72)=2.505$, $p=0.029$) when combining Chinese medicine and conventional inducement methods (medicinal/mechanical).

CONCLUSIONS:

Study results show that Chinese medicine inducement methods, whether or not combined with conventional methods, are an important and effective tool in their ability to reduce the extent of intervention throughout the birth process and also in reducing delivery completion interventions.

SUMMARY:

Significant difference was found in shortening labor process when inducement treatment combined both Chinese medicine and conventional methods, in comparison to conventional inducement alone {medicinal/mechanical}. This is an important result considering the high availability and low cost of Chinese treatment, and especially because it is a non-harmful method of inducement.



Effects of acupuncture at ST36 on pharmacokinetics of Schisandra lignans in rats.

<http://www.ncbi.nlm.nih.gov/pubmed/25712441>

Acupunct Med 2015; 2014-010622

By De Ji

Abstract

OBJECTIVE:

To investigate the influence of acupuncture at ST36 on the pharmacokinetics of Schisandra lignans including schisandrin, deoxyschisandrin and schisandrin B after intragastric administration of Schisandra chinensis (SC) in rats.

METHODS:

Twelve male Sprague-Dawley rats were randomly divided into two study groups: SC and SC+acupuncture. Rats in both groups received intragastric SC extract at 5.0 g/kg. Rats in the SC+acupuncture group additionally received acupuncture stimulation at ST36 for 30 min after SC administration. Acupuncture needles were rotated bilaterally for 1 min, left in situ for 20 min, then electrically stimulated for 10 min at 50 Hz frequency and 1-3 mA intensity. A sensitive and specific high performance liquid chromatography electrospray tandem mass spectrometry procedure was developed and validated for

simultaneous analysis of three bioactive lignans (schisandrin, deoxyschisandrin and schisandrin B) in rat plasma.

RESULTS:

There were significant differences ($p < 0.05$) between the two study groups in various pharmacokinetic parameters. Area under the plasma concentration-time curve (AUC_{0-t}), area under the plasma concentration-time curve to time infinity ($AUC_{0-\infty}$) and peak plasma concentration (C_{max}) for schisandrin, absorption half-life ($T_{1/2\alpha}$) and AUC_{0-t} for deoxyschisandrin, and C_{max} for schisandrin B were increased in the SC+acupuncture group compared with the SC group. $T_{1/2\alpha}$ for schisandrin B only and time to peak concentration (T_{max}) for all three lignans were reduced following acupuncture.

CONCLUSIONS:

Acupuncture stimulation at ST36 affects the pharmacokinetics of SC in rats. Acupuncture may have a beneficial role in promoting the absorption of lignans from extracts of SC.

Acupuncture May Exert Its Therapeutic Effect through MicroRNA-339/Sirt2/NFκB/FOXO1 Axis.

<http://www.ncbi.nlm.nih.gov/pubmed/25695055>

Biomed Res Int 2015; 2015: 249013

By Wang JY

Abstract

Recently, we have found that a number of microRNAs (miRNAs) and proteins are involved in the response to acupuncture therapy in hypertensive rats. Our bioinformatics study suggests an association between these miRNAs and proteins, which include miR-339 and sirtuin 2 (Sirt2). In this paper, we aimed to investigate whether Sirt2 was a direct target of miR-339 in

neurons. In human SH-SY5Y cells, the luciferase assay implied that Sirt2 was likely a target of miRNA-339. Overexpression of miR-339 downregulated Sirt2 expression, while knockdown of miR-339 upregulated Sirt2 expression in human SH-SY5Y cells and rat PC12 cells. In addition, overexpression of miR-339 increased the acetylation of nuclear factor-κB (NF-κB) and forkhead box protein O1 (FOXO1) in SH-SY5Y cells, which are known targets of Sirt2. Our findings demonstrate that miR-339 regulates Sirt2 in human and rat neurons. Since

Sirt2 plays a critical role in multiple important cellular functions, our data imply that acupuncture may act through epigenetic changes and subsequent action on their targets, such as miRNA-339/Sirt2/NF- κ B/FOXO1 axis.

Some physiological level changes of neurons after altering the miR-339 levels are needed to validate the suggested therapeutic role of miR-339/Sirt2/NF- κ B/FOXO1 axis in response to acupuncture therapy in the future work.

Pain intensity and cervical range of motion in women with myofascial pain treated with acupuncture and electroacupuncture: a double-blinded, randomized clinical trial.

<http://www.ncbi.nlm.nih.gov/pubmed/25714602>
Braz J Phys Ther 2015; 19 (1): 34-43.

By Aranha MF

Abstract

BACKGROUND:

Acupuncture stimulates points on the body, influencing the perception of myofascial pain or altering physiologic functions.

OBJECTIVE:

The aim was to evaluate the effect of electroacupuncture (EAC) and acupuncture (AC) for myofascial pain of the upper trapezius and cervical range of motion, using SHAM acupuncture as control.

METHOD:

Sixty women presenting at least one trigger point at the upper trapezius and local or referred pain for more than six months were randomized into EAC, AC, and SHAM groups. Eight sessions were scheduled and a follow-up was conducted after 28 days. The Visual Analog Scale assessed the intensity of local and general pain. A fleximeter assessed cervical movements. Data were analyzed using paired t or Wilcoxon's tests,

ANOVA or Friedman or Kruskal-Wallis tests and Pearson's correlation ($\alpha=0.05$).

RESULTS:

There was reduction in general pain in the EAC and AC groups after eight sessions ($P<0.001$). A significant decrease in pain intensity occurred for the right trapezius in all groups and for the left trapezius in the EAC and AC groups. Intergroup comparisons showed improvement in general pain in the EAC and AC groups and in local pain intensity in the EAC group ($P<0.05$), which showed an increase in left rotation ($P=0.049$). The AC group showed increases in inclination ($P=0.005$) sustained until follow-up and rotation to the right ($P=0.032$).

CONCLUSION:

EAC and AC were effective in reducing the pain intensity compared with SHAM. EAC was better than AC for local pain relief. These treatments can assist in increasing cervical range of motion, albeit subtly.

