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New Studies Reveal How Acupuncture Works

[Http://www.Medicaldaily.Com/Articles/14249/20130314/Reveal-Acupuncture-Stress-Hormones-Zusanli.Htm#Ht754qetlf7mfk1i.02](http://www.Medicaldaily.Com/Articles/14249/20130314/Reveal-Acupuncture-Stress-Hormones-Zusanli.Htm#Ht754qetlf7mfk1i.02)

14 Mar, 2013. By Jonathan Weiss

Acupuncture has been used in Eastern medicine for hundreds of years as a way to relax patients and relieve illness. It is historically believed to "restore the flow of energy." But new research into the mechanisms of how acupuncture works shows that it may induce real physiological changes.

Researchers at the Georgetown University Medical Center found that in laboratory rats electronic acupuncture stimulation resulted in the reduction of a key stress hormone.

"Many practitioners of acupuncture have observed that this ancient practice can reduce stress in their patients, but there is a lack of biological proof of how or why this happens," said the study's lead author, Ladan Eshkevari, PhD, an associate professor of nursing at Georgetown University's School of Nursing and Health Studies, a part of GUMC. "We're starting to understand what's going on at the molecular level that helps explain acupuncture's benefit."

Rats were chosen because they are used in medical research to test stress responses. They start exhibiting stress responses when exposed to cold air temperatures for just one hour a day. The research was conducted over a period of 10 days and consisted of groups that had been stressed, a group that had been stressed and received acupuncture therapy, a group stressed that received a mock acupuncture therapy and a group that just received the acupuncture with no stress. The spot chosen for the acupuncture was the Zusanli spot on the leg which has been reported to relieve stress and stress related symptoms. The spot is below the knee in people and the same spot exists in mice.

The examination of stress hormones focused on hypothalamus pituitary adrenal (HPA) axis, which includes hormones produced by three important glands. Hormones from these glands influence stress, the immune system, digestion, mood, emotion, sexuality and energy expenditure. Researchers also looked at the presence of a peptide called NPY which is released by the nervous system in humans and rodents and is involved in the flight or fight response.

"We found that electronic acupuncture blocks the chronic, stress-induced elevations of the HPA axis hormones and the sympathetic NPY pathway," Eshkevari said. "Our growing body of evidence points to acupuncture's protective effect against the stress response."

Acupuncture Blocks Cold Stress-Induced Increase in Hypothalamus-Pituitary-Adrenal Axis in Rat

<http://joe.endocrinology-journals.org/content/early/2013/02/04/JOE-12-0404>

J Endocrinol February 5, 2013 JOE-12-0404. By Ladan Eshkevari.

Electroacupuncture (EA) is used to treat chronic stress, however its mechanism(s) of action in allaying stress remain unclear. The interplay of stress hormones of the hypothalamus pituitary adrenal axis (HPA) and the sympathetic nervous System (SNS) is critical in the stress response. Our objective was to determine if EA at acupoint, stomach 36 (St36) is effective in preventing chronic cold stress-induced increase hormone levels in the rat by examining four groups of animals, three of which were exposed to cold and one was a non-treatment control group. Prior to exposure to the cold, two groups were treated with either EA at St36, or Sham EA, prior to 10 days of cold stress. The EASt36 animals demonstrated a significant decrease in peripheral HP hormones (ACTH, & CORT) compared to stress animals ($p < 0.05$). These effects were

specific; rats receiving Sham EA had elevation of these hormones, similar to the stress-only animals. These effects were mirrored centrally in the brain; corticotropin releasing hormone (CRH) levels were significantly ($p < 0.05$) reduced in EASt36 animals compared to the other animals. Finally, EA effect on peripheral and adrenal SNS hormones (Norepinephrine [NE] and Neuropeptide Y-NPY, respectively) was examined, with no significant difference noted in adrenal TH or circulating NE in any of the groups. However, EA ST36 was effective in preventing stress-induced elevation is adrenal NPY mRNA. These results indicate EA at St36 blocks the chronic stress-induced elevations in the HPA axis and the sympathetic NPY pathway, which may be a mechanism for its specific stress-allaying effects.

Acupuncture for the treatment of post-chemotherapy chronic fatigue: a randomized, blinded, sham-controlled trial

<http://link.springer.com/article/10.1007/s00520-013-1720-z#>

Supportive Care in Cancer. January.2013, 1433-7339. By Gary Deng.

Purpose

Many cancer patients experience persistent fatigue after the completion of chemotherapy. A previous single-arm study provided evidence for an effect of acupuncture in this population. We conducted a randomized controlled trial to determine whether acupuncture reduces post-chemotherapy chronic fatigue more effectively than sham acupuncture.

Methods

Cancer patients reporting significant fatigue persisting for at least 2 months following the completion of chemotherapy were randomized to receive once weekly true or sham acupuncture for 6 weeks. Fatigue was evaluated before and after treatment using the Brief Fatigue Inventory (BFI, the primary endpoint). Secondary endpoints included the Hospital Anxiety and Depression Scale (HADS) and Functional Assessment of Cancer Treatment-General (FACT-G) scores.

Results

True acupuncture as One hundred one patients were randomized with 74 (34 true acupuncture; 40 sham control) evaluated for the primary endpoint. BFI scores fell by about one point between baseline and follow-up in both groups with no statistically significant difference between groups. HADS and FACT-G scores also improved in both groups, but there was no significant difference between groups. Patients in the sham acupuncture group crossed over to receive true acupuncture in week 7. No long-term reduction of fatigue scores was observed at the 6-month evaluation.

Conclusions

provided in this study did not reduce post-chemotherapy chronic fatigue more than did sham acupuncture. The study is limited by the number of patients lost to follow-up. We also cannot exclude the possibility that a more intensive treatment regimen may be more effective.



The effect of acupuncture on post-cancer fatigue and well-being for women recovering from breast cancer: a pilot randomised controlled trial

<http://aim.bmj.com/content/31/1/9.short>

Acupunct Med 2013; 31:9-15. By Caroline Smith.

Objective To determine the feasibility and acceptability of acupuncture in managing fatigue and well-being in breast cancer survivors.

Methods A randomised controlled trial compared acupuncture with sham acupuncture and wait list controls was performed in Sydney, Australia. A total of 30 women with fatigue following breast cancer treatment participated in the trial. Women received six sessions of acupuncture over 8 weeks. Outcomes related to an assessment of interest to participate in the trial and identification of appropriate recruitment strategies, appropriateness of eligibility criteria and compliance with treatment attendance. Clinical outcomes assessed fatigue and well-being. In-depth interviews were undertaken with seven women, who described their experience of acupuncture.

Results Our study demonstrated feasibility with appropriate trial entry criteria, good acceptability and treatment compliance with the study interventions, and with the completion of outcome forms. There was a significant reduction in fatigue for women receiving acupuncture compared with control after 2 weeks mean difference (MD) 5.3, 95% CI 4.5 to 6.2, $p=0.05$,

and a significant improvement in well-being at 6 weeks for acupuncture compared with the sham and wait list control, MD 2.7, 95% CI 2.1 to 3.2, $p=0.006$. Women described their experience of acupuncture positively, and interview data may also offer explanations for the improved outcomes of well-being, with women reporting an improvement in sleep, mood and relaxation.



Conclusions Fatigue is a common symptom experienced by people recovering from treatment, and an appropriately powered trial to evaluate the effect of acupuncture is needed.

Acupuncture in Patients With Seasonal Allergic Rhinitis: A Randomized Trial

<http://annals.org/article.aspx?articleID=1583578>

Ann Intern Med. 19 February 2013;158(4):225-234. By Benno Brinkhaus.

Background: Acupuncture is frequently used to treat seasonal allergic rhinitis (SAR) despite limited scientific evidence.

Objective: To evaluate the effects of acupuncture in patients with SAR.

Design: Randomized, controlled multicenter trial. (ClinicalTrials.gov: NCT00610584)

Setting: 46 specialized physicians in 6 hospital clinics and 32 private outpatient clinics.

Patients: 422 persons with SAR and IgE sensitization to birch and grass pollen.

Intervention: Acupuncture plus rescue medication (RM) (cetirizine) ($n = 212$), sham acupuncture plus RM ($n = 102$), or RM alone ($n = 108$). Twelve treatments were provided over 8 weeks in the first year.

Measurements: Changes in the Rhinitis Quality of Life Questionnaire (RQLQ) overall score and the RM score (RMS) from baseline to weeks 7 and 8 and week 16 in the first year and week 8 in the second year after randomization, with predefined noninferiority margins of -0.5 point (RQLQ) and -1.5 points (RMS).

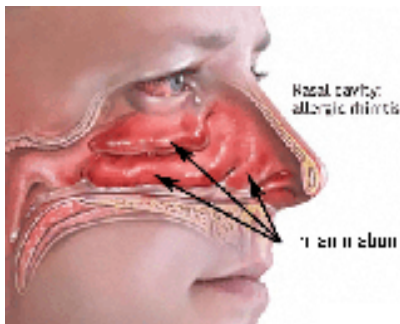
Results: Compared with sham acupuncture and with RM, acupuncture was associated with

improvement in RQLQ score (sham vs. acupuncture mean difference, 0.5 point [97.5% CI, 0.2 to 0.8 point; $P < 0.001$]; RM vs. acupuncture mean difference, 0.7 point [97.5% CI, 0.4 to 1.0 point; $P < 0.001$]) and RMS (sham vs. acupuncture mean difference, 1.1 points [97.5% CI, 0.4 to 1.9 points; $P < 0.001$]; RM vs. acupuncture mean difference, 1.5 points [97.5% CI, 0.8 to 2.2 points; $P < 0.001$]). There were no differences after 16 weeks in the first year. After the 8-week follow-up phase in the second year, small improvements favoring real acupuncture over the sham procedure were noted (RQLQ mean difference, 0.3 point [95% CI, 0.03 to 0.6 point; $P = 0.032$]; RMS mean difference, 1.0 point [95% CI, 0.2 to 1.9 points; $P = 0.018$]).

Limitation: The study was not powered to detect rare adverse events, and the RQLQ and RMS values were low at baseline.

Conclusion: Acupuncture led to statistically significant improvements in disease-specific quality of life and antihistamine use measures after 8 weeks of treatment compared with sham acupuncture and with RM alone, but the improvements may not be clinically significant.

Primary Funding Source: German Research Foundation.



The Acceptability of Acupuncture for Low Back Pain: A Qualitative Study of Patient's Experiences Nested within a Randomised Controlled Trial

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0056806>
PLOS one Clinical Trials 2013. By Ann Hopton.

Introduction

The National Institute for Health and Clinical Excellence guidelines recommend acupuncture as a clinically effective treatment for chronic back pain. However, there is insufficient knowledge of what factors contribute to patients' positive and negative experiences of acupuncture, and how those factors interact in terms of the acceptability of treatment. This study used patient interviews following acupuncture treatment for back pain to identify, understand and describe the elements that contribute or detract from acceptability of treatment.

Methods

The study used semi-structured interviews. Twelve patients were interviewed using an interview schedule as a sub-study nested within a randomised controlled trial of acupuncture for chronic back pain. The interviews were analysed using thematic analysis.

Results and Discussion

Three over-arching themes emerged from the analysis. The first entitled facilitators of acceptability contained five subthemes; experience of pain relief, improvements in

physical activity, relaxation, psychological benefit, reduced reliance on medication. The second over-arching theme identified barriers to acceptability, which included needle-related discomfort and temporary worsening of symptoms, pressure to continue treatment and financial cost. The third over-arching theme comprised mediators of acceptability, which included pre-treatment mediators such as expectation and previous experience, and treatment-related mediators of time, therapeutic alliance, lifestyle advice and the patient's active involvement in recovery. These themes inform our understanding of the acceptability of acupuncture to patients with low back pain.

Conclusion

The acceptability of acupuncture treatment for low back pain is complex and multifaceted. The therapeutic relationship between the practitioner and patient emerged as a strong driver for acceptability, and as a useful vehicle to develop the patients' self-efficacy in pain management in the longer term. Unpleasant treatment related effects do not necessarily detract from patients' overall perception of acceptability.



