Efficacy of Acupuncture for Acute Migraine Attack: A Multicenter Single Blinded, Randomized Controlled Trial

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Conflicts of Interest: We have no conflicts of interest.

Abstract

Objective. We aim to investigate the efficacy of acupuncture for acute migraine attacks comparing with sham acupuncture.

Design. The study was designed as a multicenter, single-blinded, randomized controlled clinical trial.

Setting and Patients. From March 2007 to February 2009, 150 patients were randomly allocated to verum or sham acupuncture group in a ratio of 1:1.

Interventions. Every patient received a verum or sham acupuncture treatment when having a migraine attack and, medications were allowed if the pain failed to be relieved two hours after the acupuncture.

Outcome Measures. The primary outcome was visual analog scale (VAS) scores for pain, ranging from 0 (no pain) to 10 (worst pain ever).

Results. The mean VAS scores 24 hours after treatment decreased from 5.7 to 3.3 in the verum acupuncture group, and from 5.4 to 4.7 in the sham acupuncture group. Significant differences existed between the two groups (P = 0.001).

Conclusions. This trial suggested that verum acupuncture group was superior to sham acupuncture group on relieving pain and reducing the usage of acute medication.

Key Words. Migraine; Acupuncture; Acute Treatment

Introduction

Migraine is a common recurrent headache disorder with characteristics of unilateral location, pulsating quality, moderate or severe intensity, and associated symptoms of photophobia, phonophobia, nausea and vomiting, etc [1]. The 1-year prevalence for migraine was 14.7% (19.2% women and 6.6% men) in the United States [2] and 8–13% in Asia [3–6]. Because patients with migraine usually have frequent, severe, and disabling headache attacks, medical treatment is often required [7]. Based on the recommendations of the European Federation of Neurological Societies guideline on drug treatment, oral non-steroidal anti-inflammatory drugs (NSAIDs), and triptans were recommended for the acute migraine attacks [8]. However, patients could experience some side effects of the pharmacologic therapies, such as gastrointestinal and cardiovascular disorders. Moreover, medication overuse headache [9] and the increased headache frequency [10]
Acupuncture has been applied to headache treatment in China for thousands of years and is currently widely used around the world [11,12]. A systematic review has shown that acupuncture is efficacious for migraine prophylaxis [13], yet there was lack of adequately powered evidence to prove the effect of acupuncture for acute migraine attacks. The US Headache Consortium also suggested that acupuncture might play an important role in migraine management, although further evidences are needed [14].

Based on the clinical experiences of acupuncture experts, we gradually formulated a methodology of “syndrome differentiation of meridians” on the treatment of migraine attacks. To evaluate the efficacy of acupuncture for acute migraine treatment, we undertook the multicenter randomized controlled clinical trial.

**Method**

**Design**

This was a multicenter prospective, single-blinded, randomized parallel controlled trial comparing verum acupuncture with sham acupuncture. The total study duration of each patient included a baseline period of 28 days for screening, one session of acupuncture treatment and a 3-day period of follow-up. Patients enrolled at baseline assessment were asked to record headache diaries for screening and those who met the inclusion criterion were randomly allocated in a 1:1 ratio into verum acupuncture group and sham acupuncture group. The outcome measures were evaluated by assessors unaware of allocation during the study.

This study was designed and conducted cooperatively by a group consisting of acupuncture experts, acupuncture practitioners, neurologists, a methodologist, and statisticians.

**Patients**

Between March 2007 and February 2009, 150 migraine patients were recruited from the outpatient acupuncture departments of the following five hospitals: Beijing Hospital of Traditional Chinese Medicine Affiliated to Capital Medical University, The Third Hospital of Peking University, Beijing Tiantan Hospital affiliated to Capital Medical University, Huguosi Hospital affiliated to the Beijing University of Chinese Medicine and Dongzhimen Hospital affiliated to the Beijing University of Chinese Medicine.

Patients were eligible for this trial only after they had met the diagnostic criteria of the International Classification of Headache disorders (Headache Classification Subcommittee of the International Headache Society, second edition 2004) [1]. Inclusion criteria also included: history of migraine more than 1 year; at least one migraine attack during the last 4 weeks; age between 18 and 65 years; no acute migraine treatment with acupuncture or drugs within 24 hours after the beginning of the migraine attack; no prophylaxis treatments with acupuncture or drugs in the past 3 months; and provided written informed consent.

The main exclusion criteria were: tension-type headache; cluster headache; other primary headache disorders; secondary headache disorders; neuralgia of the face or head; pregnancy, lactation, or insufficient contraception; psychosis; immunodeficiency; bleeding disorders; allergies; or participation in another clinical trial.

Patients were informed that they would receive one of the two different acupuncture formulas with equal chance.

The trial was performed according to the principles of the Declaration of Helsinki (Version Edinburgh 2000) and the protocol was approved by the Research Ethical Committee of Beijing Hospital of Traditional Chinese Medicine Affiliated to Capital Medical University on May 2007 (Ref: 200704).

**Practitioners**

All the physicians and assessors were required to take special training prior to the trial to guarantee consistent practices among the five hospitals. The training program included standard operation procedure of the trial, the diagnoses and differential diagnoses of migraine without aura, the standard inclusion and exclusion criteria, the use of randomization opaque sealed envelopes, the completion of case report forms, and locations of the acupuncture points and correct manipulation of the needles. Both verum and sham acupuncture were performed by acupuncturists with at least 20 years of clinical experience. Blinded assessors took charge of the interview and data collection. The study was regularly monitored by clinical monitors to ensure the consistency of practice among all hospitals.

**Interventions**

Patients with acute migraine attack in two groups received verum or sham acupuncture, respectively. Acupuncture treatment was administered as one session of 30 minutes duration.

**Acupuncture Group**

Acupoints including obligatory and additional points were selected based on the consensus of clinical experiences of acupuncture experts in Beijing Hospital of Traditional Chinese Medicine Affiliated to Capital Medical University. The obligatory points included DU20 (Baihui), DU24 (Shenting), ST8 (Touwei), GB8 (Shuagui), and GB20 (Fengchi). According to different syndromes, additional points could be chosen individually: SJ5 (Waiguan) and GB34 (Yanglingquan) for Shaoyang headache (TE-GB);
Acupuncture for Acute Migraine Attack

LI4 (Hegu) and ST44 (Neiting) for Yangming headache (LI-ST); BL60 (Kunlun) and ST3 (Houxi) for Taiyang headache (Si-BL); LR3 (Taichong) and GB40 (Qiuju) for Jueyin headache (PC-LR); PC6 (Neiguan) for nausea and vomiting; and LR3 for dysesthesia and susceptibility to rage.

For DU20, DU24, ST8, and GB8, the needle was punctured obliquely under the galea aponeurotica at first and then turned to horizontal with twirling. Other acupoints were punctured perpendicularly.

Control Group

The sham points were chosen with the following four rules: 1) acupoints unrelated to headache were selected based on the analysis of many Chinese acupuncture textbooks, and ancient and modern articles; 2) in order to avoid possible therapeutic effects on headache, 30 acupoints in the vicinity of elbow and knee joints were selected while the acupoints located in head, hands, feet, and trunk were excluded, and were located 3 mm apart from the selected acupoints; 3) these 30 sham points were randomly assigned to five subgroups of sham acupuncture group labeled with B, C, D, E, and F, and recorded in the predetermined computer-made randomization sealed envelope. Each subgroup had two points on the arms and three points on the legs. Patients in the sham acupuncture group would be assigned to one of subgroups; and 4) the number of points in sham acupuncture group was similar to that of verum acupuncture group. Sham points were all punctured perpendicularly.

All the needles were stimulated manually by twirling and lifting–thrusting to elicit “DeQi” (feeling of needle sensation refers to tenseness around the needle felt by the practitioner and numbness, distension, soreness, heaviness around the point felt by the patient).

Aspirin was chosen as an acute medication for migraine attack when patients still suffered from migraine 2 hours after the acupuncture treatment. Aspirin effervescent tablets (Bamyl, production no. 0703017) were produced by Astra Zeneca Pharmaceutical Ltd (Wilmington, DE, USA), 10 mg per tablet. Other acute medications were also allowed if necessary and, the type and dose were recorded in headache diaries.

Randomization

The central randomization was performed by the Research Center of Clinical Epidemiology affiliated to Peking University, which used block randomization (block size 4 unknown to the practitioners) to generate the random allocation sequence and prepare a predetermined computer-made randomization opaque sealed envelope. The opaque sealed envelopes, with patient’s screening order printed outside and randomized assigned group printed inside, were numbered consecutively and connected into a strain. Researchers enrolled the eligible patients after baseline screening, then separated and opened each envelope from the strain in sequence corresponding with the patients screening order, and assigned the patient into the intervention group.

Blinding

This is a single blind trial, in which patients could not tell the differences between the different points of the two acupuncture formulas. There was little chance of communication between patients because most of them came at different times. Chinese patients know about the culture of traditional Chinese medicine; they accepted both of the formulas. The follow-up assessors and the statistical analyzers were uninvolved in the clinical management thus, were also blinded. However, the acupuncture practitioners failed to be blinded.

To achieve blinding, several common approaches of verum/sham acupuncture in two groups were performed: bilateral points; usage of disposable, sterile steel needles (1.5-in. filiform needle, 0.32 mm x 40 mm); 10–12 needles; skin disinfection with 75% alcohol; needles insertion in depth of 10–15 mm and retention for 30 minutes as well as no moxibustion or electrical stimulation; “DeQi” obtained by 5–10 times of twirling and lifting–thrusting the needles.

Outcome Measures

Patients were required to record headache diaries from baseline to the end of the follow-up. The headache diaries included the duration (hours), location (the forehead, top, temporal, and back of the head), intensity (mild, moderate, severe), type of pain (pulsating, stabbing, dull, distention, etc), accompanying symptoms (nausea, vomiting, photophobia, phonophobia), triggers, and medications taken during every migraine attack. They were also informed how to judge recurrences from new migraine attack according to the International Headache Society [15]. Recurrence occurs if the patient is pain free within 24 hours after treatment or headache of any severity returns within 48 hours.

Primary outcome measure was the between-group difference of the visual analog scale (VAS) scores (0 [no pain] to 10 [worst pain ever]) for pain 24 hours after acupuncture. The secondary outcome measures were Short-Form of McGill Pain Questionnaire (SF-MPQ) scores at 24 hours after acupuncture; the number of patients achieving freedom from pain in 0–24 hours, 24–48 hours, and 48–72 hours; the number of people with acute-medication and the dosage of medication, the number of people with nausea and vomiting at 24 hours, 48 hours, and 72 hours; the recurrence of migraine attack, and the number of patients with adverse effects (AE) within 72 hours.

Statistical Analysis

All the outcomes were analyzed with intention-to-treat (ITT) method (a population of participants who were...
randomly allocated after baseline assessment regardless of whether they received any treatment. Missing data were replaced by the last observation data carried forward. A variance analysis to reject the null-hypothesis H0: “there is no difference in the success probability between acupuncture group and control group.” The significant level used for the statistical analysis with two-sided testing was 5%; therefore, \( P < 0.05 \) indicated significance. Data values were presented by mean ± standard deviation, 95% confidence intervals, and percentages. Student’s t-test or Wilcoxon rank sum test was used to compare between groups at each time points. In the case of proportions, a chi-square test was applied. All analyses were performed using the Statistical Package for the Social Sciences (SPSS) software program (version 11.5) for Windows XP (SPSS Inc., Chicago, IL, USA).

**Results**

**Dropouts**

After baseline screening, 150 subjects (75 in each group) had been enrolled and none of them withdrew the consent after randomization. During the study, 10 patients dropped out at the rate of 6.7% (three from verum acupuncture group [4.0%] and seven from sham acupuncture group [9.3%]). The reasons for dropping out in the two groups were given in Figure 1.

**Baseline Characteristics**

The average ages of verum and sham acupuncture group were 37.8 ± 10.6 and 38.6 ± 12.6, respectively. As shown in Table 1, no significant differences were found for the demographic and baseline parameters between the two groups in the ITT population \( (P > 0.05) \). The two groups were comparable at baseline.

**The Primary and Secondary Outcome Measures**

**Pain Intensity**

The VAS scores at baseline were 5.7 ± 1.4 in verum acupuncture group and 5.4 ± 1.3 in the sham acupuncture group. Twenty-four hours after acupuncture treatment, the VAS scores decreased by 2.4 in verum acupuncture group while 0.7 in sham acupuncture group. Significant differences were found on the reduction of VAS scores between the two groups \( (P = 0.001) \) (Figure 2).

**SF-MPQ Summary Scores**

The mean SF-MPQ summary scores significantly decreased from 10.8 ± 4.3 to 4.1 ± 3.6 in verum acupuncture group and from 9.6 ± 3.7 to 6.4 ± 4.0 in sham acupuncture group. Significant differences were found between the two groups on SF-MPQ summary scores 24 hours after acupuncture treatment \( (P < 0.001) \).

**Acute Medication Intake**

The proportion of patients with acute medication intake reduced significantly in verum acupuncture group compared with the sham acupuncture group at 24 hours and 48 hours \( (P < 0.05) \), but no difference was found at 72 hours. For the average dosage of acute medication, there was no significant difference between the two groups at three time points \( (P > 0.05) \).

**Accompanying Symptoms**

The accompanying symptoms of migraines decreased clearly in comparison with baseline for each group and significant differences were found between the two groups at 24 hours, 48 hours, and 72 hours \( (P < 0.05) \) (Table 2).

**Pain Freedom**

Fifteen patients in verum acupuncture group achieved freedom from pain within 24 hours after acupuncture treatment while seven patients in sham acupuncture group. During 24–48 hours, 48 migraine patients in the verum acupuncture group achieved freedom from pain while 37 patients in sham acupuncture group. During 48–72 hours, 64 patients in the verum acupuncture group achieved freedom from pain while 57 patients in sham acupuncture group. No significant differences were found between the two groups at these time points \( (P > 0.05) \).

**Recurrence of Migraine**

Three patients had their migraine recur after treatment in the verum acupuncture group while six patients in the sham acupuncture group. The incidences of recurrence were 4% and 8%, respectively. There was no significant difference between the two groups \( (P = 0.492) \).

**Safety**

Seven patients (three in verum acupuncture group, four in sham acupuncture group) reported mild AE during the study period. Five of them complained of a little bleeding in a few acupoints after needle removal without subcutaneous hematoma. The other two in the sham group complained of fatigue, which were classified as an unknown cause. All the patients with adverse effect recovered rapidly in our trial.

**Discussion**

Our study suggested that both verum and sham acupuncture had effects on relieving pain and, verum acupuncture was slightly better than sham acupuncture. The pain intensity and SF-MPQ scores significantly improved, and the number of patients with acute medications and accompanying symptoms significantly decreased in verum acupuncture group in comparison with those of sham acupuncture group. However, for the average
dosage of acute medications and the number of patients with migraine relapse, no differences were found between the two groups.

There is no sufficient evidence to date as to whether acupuncture could be applied as an effective treatment for acute migraine. Our results were consistent with Li Ying et al. [16] suggesting that verum acupuncture was more effective than sham acupuncture on reducing the discomfort of acute migraine. In addition, the present trial suggested that the number of patients with acute medications was significantly reduced in verum acupuncture group comparing with sham acupuncture group.

Pain relief is an important outcome in the clinical trials of acute migraine, and the pain often recurs within 24 hours.

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**Figure 1** Trial profile. ITT = intention-to-treat.
after treatment. We measured the number of patients achieving freedom from pain within 24 hours after treatment (pain free 24 hours after treatment without the use of rescue medication), which was similar to Ho TW’s [17]. They found that the proportion of patients with telcagepant 300 mg on the endpoint of 2–24 hours were pain free 71/351 (20.2%), superior to 17/343 (5.0%) with placebo (P < 0.001). The proportion of patients pain free within 24 hours after treatment in the verum acupuncture group was 15/75 (20.0%), while that was 7/75 (9.3%) in the sham acupuncture group and, continuously increased on 24–48 hours and 48–72 hours in each group, respectively. No significant differences were found between the two groups at 0–24, 24–48 and 48–72 hours.

Migraine recurrence is one typical problem of attack treatment. It is defined as a worsening of migraine headache after pain free or mild pain that has been achieved with a

<table>
<thead>
<tr>
<th>Table 1</th>
<th>The characteristics of baseline</th>
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<tbody>
<tr>
<td></td>
<td>Verum Acupuncture</td>
</tr>
<tr>
<td>Group</td>
<td>N = 75 (ITT)</td>
</tr>
<tr>
<td>Female, N (%)</td>
<td>67 (89.3)</td>
</tr>
<tr>
<td>Age (X ± SD)</td>
<td>37.8 ± 10.6</td>
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<tr>
<td>Visual analog scale</td>
<td>5.7 ± 1.4</td>
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<tr>
<td>SF-MPQ</td>
<td>10.8 ± 4.3</td>
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<tr>
<td>Acute-medication use, N (%)</td>
<td>54 (72%)</td>
</tr>
<tr>
<td>The dosage of medications (X ± SD)</td>
<td>2.4 ± 1.9</td>
</tr>
<tr>
<td>Location of headache, N (%)</td>
<td></td>
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<tr>
<td>Top of the head</td>
<td>9</td>
</tr>
<tr>
<td>Forehead</td>
<td>17</td>
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<tr>
<td>Back of the head</td>
<td>3</td>
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<tr>
<td>Temporal of the head</td>
<td>46</td>
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<tr>
<td>Type of pain, N</td>
<td></td>
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<tr>
<td>Pulsating</td>
<td>43</td>
</tr>
<tr>
<td>Stabbing</td>
<td>9</td>
</tr>
<tr>
<td>Distention</td>
<td>19</td>
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<tr>
<td>Dull</td>
<td>38</td>
</tr>
<tr>
<td>Others</td>
<td>33</td>
</tr>
<tr>
<td>Accompanying symptoms, N</td>
<td></td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>63</td>
</tr>
<tr>
<td>Photophobia or phonophobia</td>
<td>56</td>
</tr>
<tr>
<td>*P-values for comparison with sham acupuncture group, based on †t-test, ‡chi-square test, significant difference, P &lt; 0.05. Data presented as mean (SD) or number (percentage). SF-MPQ = Short-Form of McGill Pain Questionnaire; SD = standard deviation; ITT = intention-to-treat.</td>
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</table>
drug within 24 hours [8]. Therefore, the recurrence of migraine was also observed. The incidences of recurrence were similar in comparison of verum and sham acupuncture, both of which were lower than that of taking oral triptans (between 15% and 40% [8]).

The basic mechanisms of acupuncture to improve pain have no definite explanations. Some related hypotheses have been pointed out in previous studies. Acupuncture may exert analgesic effects by the hypothalamic–pituitary–adrenal axis, and the endogenous opioid (EO) system, which are important mediators of the stress response to pain and other threatening stimuli. The gate control theory suggests that acupuncture produces hyperstimulation analgesia by stimulating myofascial trigger points. The diffuse noxious inhibitory control is another potentially applicable hypothesis. According to these hypotheses, sham acupuncture could produce certain effects on pain relief regardless of the sham points’ selection.

Although patients in sham acupuncture group obtained “DeQi” sensation, we tried to minimize the possible therapeutic effects of sham acupuncture in the following ways: 1) according to the traditional acupuncture theory that special acupuncture points and needle sensation are two essential components to produce therapeutic effects, the acupuncture points related to headache treatment and pain alleviation were excluded and the selected sham points located nearby these acupuncture points; 2) the number of points and acupuncture manipulation in sham acupuncture group were equal to that in verum acupuncture group; and 3) five different subgroups of sham point combination were randomly generated by computer in order to distribute and minimize the possible therapeutic effects.

However, many studies proved that sham acupuncture had a similar analgesic effect as verum acupuncture. Recent neuroimaging evidences have shown that the neurochemical changes within the endogenous μ-opioid system [18] and the long-term pain-relieving effects of verum acupuncture were different from those observed during placebo or sham acupuncture [19], even though they produce almost identical reductions in perceived pain. These studies suggest that verum acupuncture and placebo acupuncture act in different mechanisms and only verum acupuncture exerts long-term therapeutic effects on the EO system.

The success of blinding was not formally examined because the manipulation of verum and sham acupuncture needle, and needle sensations of the patients between the two groups were similar. However, similar dropout rates (three vs seven patients) have demonstrated that patients were successfully blinded and the treatments of two groups were equally convincing.

The strengths of our trial included trial procedures in accordance with the Good Clinical Practice guideline; standardized manipulation of acupuncture; combination of experts on multiple disciplines such as neurology and

**Table 2** The primary and secondary outcome measures

<table>
<thead>
<tr>
<th>Group</th>
<th>Time Point (hours)</th>
<th>Visual analog scale (ITT)†</th>
<th>SF-MPQ sum (ITT)†</th>
<th>The number of patients with acute medicine N (%) (ITT)‡</th>
<th>The dosage of acute medicine¶</th>
<th>Decreasing in the number of patients with accompanying symptoms, N (%)‡ (ITT)</th>
<th>The number (proportion) of patients on sustained pain freedom (ITT)‡</th>
<th>migraine recurrence (ITT)‡</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Verum N = 75</td>
<td>Sham N = 75</td>
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<tr>
<td></td>
<td></td>
<td>Means ± SD</td>
<td>95% CI</td>
<td>Means ± SD</td>
<td>95% CI</td>
<td>P</td>
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<td></td>
<td></td>
<td>24</td>
<td></td>
<td>3.3 ± 2.5 (2.7, 3.9)</td>
<td>4.7 ± 2.4 (4.1, 5.2)</td>
<td>0.001</td>
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<td></td>
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<td>24</td>
<td></td>
<td>4.1 ± 3.6 (3.3, 4.9)</td>
<td>6.4 ± 4.0 (5.5, 7.3)</td>
<td>&lt;0.001</td>
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<td></td>
<td></td>
<td>24</td>
<td></td>
<td>9 (16.7)</td>
<td>40 (85.1)</td>
<td>&lt;0.001</td>
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<td>48</td>
<td></td>
<td>3 (5.6)</td>
<td>19 (40.4)</td>
<td>&lt;0.001</td>
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<td></td>
<td>72</td>
<td></td>
<td>1 (1.9)</td>
<td>4 (8.5)</td>
<td>0.363</td>
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<td>24</td>
<td></td>
<td>1.4 ± 0.9 (1.1, 1.7)</td>
<td>1.2 ± 0.8 (0.9, 1.5)</td>
<td>0.334</td>
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<td>48</td>
<td></td>
<td>1.0 ± 0.0</td>
<td>1.4 ± 1.2 (0.9, 2.0)</td>
<td>0.392</td>
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<td>72</td>
<td></td>
<td>1.0 ± 0.0</td>
<td>1.3 ± 0.5 (0.6, 2.4)</td>
<td>0.617</td>
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<td>24</td>
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<td>42 (67)</td>
<td>18 (33)</td>
<td>&lt;0.001</td>
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<td>48</td>
<td></td>
<td>53 (84)</td>
<td>31 (56)</td>
<td>0.001</td>
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<td>72</td>
<td></td>
<td>62 (98)</td>
<td>50 (91)</td>
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<td>24</td>
<td></td>
<td>37 (66)</td>
<td>22 (39)</td>
<td>0.005</td>
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<td>48</td>
<td></td>
<td>45 (80)</td>
<td>26 (46)</td>
<td>&lt;0.001</td>
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<td></td>
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<td>72</td>
<td></td>
<td>53 (95)</td>
<td>48 (86)</td>
<td>0.122</td>
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<td></td>
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<td>0–24</td>
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<td>15 (20%)</td>
<td>7 (9%)</td>
<td>0.065</td>
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<td>24–48</td>
<td></td>
<td>48 (64%)</td>
<td>37 (49%)</td>
<td>0.070</td>
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<td></td>
<td></td>
<td>48–72</td>
<td></td>
<td>64 (85%)</td>
<td>57 (76%)</td>
<td>0.148</td>
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<td></td>
<td></td>
<td>0–72</td>
<td></td>
<td>3</td>
<td>6</td>
<td>0.492</td>
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P-values for comparison with sham acupuncture group based on † t-test, ‡ chi-square test, ¶ Wilcoxon rank sum test, significant difference, P < 0.05.

Data presented as mean (SD) or number (percentage).

SF-MPQ = Short-Form of McGill Pain Questionnaire; SD = standard deviation; ITT = intention-to-treat; CI = confidence interval.
acupuncture; selection of acupoints based on literature, experts’ experiences; and randomized allocation of “non-specific sites” to minimize the specific therapy effects.

The main limitation of the trial was failure to assess the 2-hour pain intensity, which was used for acute migraine treatment with drugs. The effect of acupuncture on pain relief should be observed at 24 hours, 48 hours, and 72 hours. Another limitation was that the average VAS scores in two groups at baseline were relatively low, which indicated moderate pain. Approximately, 50% of migraineurs complain of severe headache during migraine attacks. Therefore, the decrease of average VAS scores was less than trials in which patients had severe headache at baseline. In fact, most of the patients with severely migraine headache took rescue medications before they went to the hospital.

In conclusion, despite the unknown mechanism of this therapy, acupuncture could be applied in acute migraine treatment for pain relief and preventing relapse. In comparison with sham acupuncture, verum acupuncture is superior in reducing the pain intensity, the number of patients with acute medications and the accompanying symptoms. Further research should be done on the mechanism of acupuncture for acute migraine treatment.

Acknowledgments

We thank Zhao YM PhD, Research Center of Clinical Epidemiology affiliated with Peking University, for statistical advice.

References


