Thirty-two Cases of Vascular Headache Treated by Acupuncture Combined with Chinese Herbal Decoction

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Objective: To compare the acupuncture plus oral administration of Chinese herbal decoction with simple oral administration of Chinese herbal decoction in the treatment of vascular headache. Methods: Sixty two patients were randomly divided into a treatment group (32 cases) and a control group (30 cases). Acupuncture at Baihui (GV 20), Fengchi (GB 20), Shuaigu (GB 8), Xingjian (LR 2), Neiguan (PC 6), Sanyinjiao (SP 6) and Ashi points combined with oral administration of Chinese herbal decoction, was applied in the treatment group, and simple oral administration of Chinese herbal decoction was applied in the control group. Results: The total therapeutic effect in the treatment group was better than that in the control group (P<0.05). After treatment, the frequency, and duration of the attacks were reduced and shortened, and headache greatly alleviated in both groups (P<0.01). The alleviation in the treatment group was more obvious than that in the control group (P<0.05). Conclusion: Acupuncture combined with oral administration of Chinese herbal decoction provided remarkable therapeutic effects in treating vascular headache. Key words: acupuncture; oral administration of Chinese herbal decoction; vascular headache; synergistic relation

Vascular headache is a common and frequently encountered disease characterized by repeated attacks of migraine mainly with severe symptoms but not many positive body signs. It pertains to the category of head-wind and brain-wind. Epidemiological investigation has shown that its incidence is 985.2/100000, with an annual incidence rate of 79.7/100000. It is more common in women than in men in a ratio of 4 to 1, and a peak onset period occurs between 25 to 29 years of age.1 By means of acupuncture combined with oral administration of Chinese herbal decoction, the authors treated 32 cases of vascular headache and compared its effect with that in 30 cases treated by simple oral administration of Chinese herbal decoction. It is reported as follows.

CLINICAL MATERIALS

General Data
By using a random digits table, 62 patients from the Clinic of Guoyitang Hospital of TCM, Beijing University of Traditional Chinese Medicine were divided into a treatment group (32 cases) and a control group (30 cases). Of the 32 cases in the treatment group, 12 cases were male and 20 cases female, ranging from 16 to 57 years with 26±11.5 on average in age and 3 months to 11 years in course of disease. According to headache attack severity and frequency, 4 severe, 17 moderate and 11 mild cases were included in this group.2 Of the 30 cases in the control group, 8 cases were male and 22 cases female, ranging from 15 to 59 years with 28±12.4 on average in age and 5 months to 13 years in course of disease. According to headache attack severity and frequency, 3 severe, 14 moderate and 13 mild cases were included in this group. There were no significant differences in gender and severity, compared by using χ² test (P>0.05), and in age and course of disease, compared by using t-test, indicating comparability between the two groups.
Criteria for Diagnosis

According to the *Criteria for Diagnosis, Cure and Improvement of Clinical Diseases*, vascular headache is manifested by head swelling pain, throbbing pain and stabbing pain, which are mostly induced by exertion, emotional factors or menstrual onset. Frequently, there are such auras before the attack as amaurosis, flash of either light or dark spots, or appearance of vertigo. It hangs on for a long time or subsides but recurs, and comes on with dryness and bitterness in the mouth, and pale complexion, vexation-restlessness, nausea and vomiting in some patients. The examination reveals dark red or purplish tongue with thin yellow or yellow and greasy tongue coating and string-taut pulse. According to syndrome differentiation and based on guiding principles for clinical study on headache set in *Guiding Principles for Clinical Study of New Chinese Medicines*, this disease belongs to liver yang hyperactivity complicated with obstruction of collaterals by blood stasis.

Criteria for Case Inclusion and Exclusion

The following cases were included: 1) the cases in accordance with the diagnostic criteria mentioned above; 2) those without abnormal findings in the nervous system shown by physical and image examinations; 3) those within the age of 15–60; 4) those signed the informed consent.

The following cases were excluded: 1) the cases of headache induced by epilepsy, brain trauma, cerebrovascular accident, intracranial infection, intracranial spaceoccupying lesion and cephalic and facial neuralgia; 2) those induced by ophthalmic or systemic diseases.

METHODS

For the Treatment Group

Acupuncture combined with oral administration of Chinese herbal decoction was applied in this group. Filiform needles were used for acupuncture at Baihui (GV 20), Fengchi (GB 20), Shuaigu (GB 8), Xingjian (LR 2), Neiguan (PC 6), Sanyinjiao (SP 6) and Ashi points. Taichong (LR 3) and Hegu (LI 4) were added to the cases with liver yang hyperactivity, and Xuehai (SP 10) was added to the cases with obstruction of collaterals by blood stasis. After routine sterilization, filiform needles made of stainless steel with 0.35 mm in diameter and 40 mm in length were inserted into the points to the depth achieving needling sensation, and then an even reinforcing and reducing maneuver was applied by lifting, thrusting and rotating, and the needles remained for 20 minutes, during which the needles were manipulated twice. The treatment was given once every other day. Chinese herbal decoction consisted of Tian Ma (天麻 Rhizoma Gastrodiae) 15g, Chuan Xiong (川芎 Rhizoma Chuanxiong) 12g, Dan Shen (丹参 Radix Salviae Miltiorrhizae) 12g, Chi Shao (赤芍 Radix Paeoniae Rubra) 15g, Bai Shao (白芍 Radix Paeoniae Alba) 15g, Dang Gui (当归 Radix Angelicae Sinensis) 12g, Fang Feng (防风 Radix Saponisnikoviae) 12g, Ju Hua (菊花 Flos Chrysanthemi) 12g, Huang Qin (黄芩 Radix Scutellariae) 12g, Mai Dong (麦冬 Radix Ophiopogonis) 12g, Bai Zhi (白芷 Radix Angelicae Dahuricae) 3g, Xi Xin (细辛 Herba Asari) 3g, Man Jing Zi (蔓荆子 Fructus Viticis) 6g, and Gan Cao (甘草 Radix Glycyrrhizae) 6g. For the cases with liver yang hyperactivity, Dai Zhe Shi (代赭石 Ochra Haematitum) 12g and Gou Teng (钩藤 Ramulus Uncariae cum Uncis) 10g were added, and for those with obstruction of collaterals by blood stasis, Tao Ren (桃仁 Semen Persicae) 9g, and Shui Zhi (水蛭 Leech) 3g were added. The drugs above-mentioned were decocted in water, and the decoction was taken at one dose per day in 2 equally divided doses taken respectively in the morning and evening.

For the Control Group

In this group, simple Chinese herbal decoction with the same components, dosage and modification as those mentioned in the treatment group was given. The patients in both groups were treated for 14 successive days (a therapeutic course), and then the therapeutic effects were evaluated.

Indices for Observation

Grade of severity: According to Bussone’s method, no pain was estimated as grade 0, mild pain as grade
I, moderate pain as grade II, severe pain as grade III, and extremely severe pain as grade IV.

Frequency of attacks: Based on the number of attacking in each month, 1–2 attacks were evaluated as 1 score, 3–4 attacks as 2 scores, 5–6 attacks as 3 scores, 7–8 attacks as 4 scores, and 9 and even more attacks as 5 scores.

Number of days with attacks: According to number of days with attacks in each month, 1–2 days were evaluated as 1 score, 3–5 days as 2 scores, 6–8 days as 3 scores, 9–11 days as 4 scores, and 12–14 days as 5 scores.

Duration of attacks: For the cases with headache attack lasting for 30 minutes–12 hours were evaluated as 1 score, for 13 hours–1 day as 2 scores, 2–3 days as 3 scores, 4–5 days as 4 scores, and 6–7 days as 5 scores.

Scoring of headache intensity: By using Visual Analog Score (VAS), a ruler of 10 cm in length, in which one end represents no pain and the other one represents extremely severe pain, was used to let the patients point out the intensity of subjective feeling of pain. The length (L) between 0 to the point was scored as follows: the case with L \( \leq 2 \) cm was evaluated as 1 score, that with 4 cm \( \leq L > 2 \) cm as 2 scores, that with 6 cm \( \leq L > 4 \) cm as 3 scores, that with 8 cm \( \leq L > 6 \) cm as 4 scores, that with L >8 cm as 5 scores.

Clinical general data: Headache attack time, frequency, severity, duration and cause, as well as corresponding body signs, tongue and pulse conditions, and body temperature were taken as clinical data for observation.

**Statistical Analysis**

All the data were shown by mean \( \pm \) standard deviation (SD), and statistical analysis was made by using SAS6.12 software. Comparison of total effective rate was made by using CMH \( \chi^2 \) test, and inter-group comparison of measurement data among groups made by \( t \)-test, and interior-group comparison by paired \( t \)-test.

**RESULTS**

**Criteria for Therapeutic Effects**

Treatment effects were estimated based on the guiding principles for clinical study on headache set in *Guiding Principles for Clinical Study of New Chinese Medicines*.\(^4\) Disappearance of headache and the accompanied symptoms was taken as clinically cured; reduction of pain severity by 2 grades with alleviation of accompanied symptoms, or lessening of attacks or duration shortened by over two thirds was taken as relieved; reduction of pain severity by 1 grade, or shortening of interval of two consecutive attacks or duration reduced by less than two thirds was taken as improved; reduction of pain severity by less than 1 grade, or shortening of duration by less than one third, or even with aggravated and prolonged duration of pain was taken as failed.

**Comparison of Total Therapeutic Effects Between The Two Groups (Table 1).**

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Cured</th>
<th>Relieved</th>
<th>Improved</th>
<th>Failed</th>
<th>Total Effective Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>32</td>
<td>11 (34.4)</td>
<td>14 (43.8)</td>
<td>3 (9.4)</td>
<td>4 (12.5)</td>
<td>28 (87.5%)</td>
</tr>
<tr>
<td>Control</td>
<td>30</td>
<td>6 (20.0)</td>
<td>4 (13.3)</td>
<td>13 (43.3)</td>
<td>7 (23.3)</td>
<td>23 (76.7%)</td>
</tr>
</tbody>
</table>

Notes: \( ^*P<0.01 \), compared with control group (CMH \( \chi^2 \)=6.62, \( P=0.01 \)), indicating the total effective rate in the treatment group was obviously better than that in the control group.

**Changes in Symptoms of Headache (Table 2)**

As shown in Table 2, compared with the data obtained before treatment, all the indices were significantly improved (\( P<0.01 \)), indicating good effects were achieved in both groups concerning the frequency of the attacks and alleviation of pain. The
differences were significant, compared between the two groups \((P<0.05)\), indicating the superiority of acupuncture plus Chinese herbal decoction to Chinese herbal decoction alone in reducing the severity of headache.

**Table 2. Scores for evaluating the symptoms of headache (X ± s, scores)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
<th>Number of times</th>
<th>Number of days</th>
<th>Duration</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Before treat.</td>
<td>3.75 ± 1.14</td>
<td>4.16 ± 0.88</td>
<td>3.81 ± 0.93</td>
<td>4.19 ± 0.78</td>
</tr>
<tr>
<td></td>
<td>After treat.</td>
<td>1.72 ± 1.25*</td>
<td>2.34 ± 1.66*</td>
<td>2.00 ± 1.52*</td>
<td>1.59 ± 1.43*</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>2.03 ± 1.64</td>
<td>1.81 ± 1.73</td>
<td>1.81 ± 1.40</td>
<td>2.59 ± 1.64</td>
</tr>
<tr>
<td>Control</td>
<td>Before treat.</td>
<td>3.73 ± 1.08</td>
<td>4.07 ± 0.91</td>
<td>3.93 ± 0.83</td>
<td>4.03 ± 0.81</td>
</tr>
<tr>
<td></td>
<td>After treat.</td>
<td>2.60 ± 1.38*</td>
<td>2.97 ± 1.50*</td>
<td>2.67 ± 1.45*</td>
<td>2.57 ± 1.36</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>1.13 ± 2.08</td>
<td>1.10 ± 1.45</td>
<td>1.27 ± 1.31</td>
<td>1.47 ± 1.33</td>
</tr>
</tbody>
</table>

Notes: *\(P<0.01\), compared before and after treatment; *\(P=0.045\), compared with the control group \((r=3.893)\) with significant difference between the two groups \((P<0.05)\).

**Follow-up**

During a follow-up of half a year, 3 cases in the treatment group had a relapse, including 2 relieved cases and 1 improved case, amounting to 9.4%, and 5 cases in the control group had a recurrence, including 1 cured case, 1 relieved case and 3 improved cases, amounting to 16.7%.

**DISCUSSION**

According to TCM, angioneurotic headache pertains to head-wind, brain-wind and hemi-head-wind. As stated in the treatise on headache in *Medical Regulations* (医林绳墨·头痛), the symptom of head-wind is not different to that of headache, but it can be differentiated based on its features of attack. Recent acute attack is called headache, and it is easy to expel, while chronic prolonged and repetitive attack is called head-wind, and it is easy to relapse. Being the confluent location of all the yang meridians and the lucid yang palace, when the brain is invaded by exogenous wind, or injured by seven emotions, improper diet and over fatigue, lucid yang can be obstructed, meridians and collaterals blocked to cause unsmooth qi and blood flow and obstructed cerebral vessels, leading to headache. As said in the treatise on headache in *Classified Treatment* (类证治裁·头痛), the head is the confluent location of all the yang meridians. When it is invaded by six exogenous pathogenic factors, the essence is obstructed and stagnated to cause failure of transportation of lucid yang, resulting in headache. In an overall viewpoint, headache is often an excess syndrome caused either by wind that attacks the Liver Meridian, making liver yang upward disturbing the head or due to blood stasis or phlegm. The authors applied acupuncture combined with oral administration of Chinese herbal decoction to treat the disease by way of both acupuncture for suppressing the hyperactive liver and subsiding yang to eliminate wind, and unblocking meridians and activating collaterals to relieve pain, and Chinese herbs for moving qi and activating blood, dispelling wind, resolving stasis and pacifying the liver.

The present study showed that the total effective rate of acupuncture plus Chinese herbs was 87.5%, which was significantly better than total effective rate of 76.7% in Chinese herbal decoction given alone \((P<0.05)\). Statistically, both the therapies could achieve obvious therapeutic effects on reducing attack frequency \((P<0.01)\), number of days with attack \((P<0.01)\), duration of attack \((P<0.01)\) and alleviating its intensity \((P<0.01)\). No significant differences in reducing all the above-mentioned indices were found between the two groups \((P>0.05)\) except the index of the attack intensity, in which the combined therapy was better than the simple one \((P<0.05)\). During a follow-up of half a year, 3 cases in the treatment group, amounting to 9.4%, and 5 cases in the control group, amounting to 16.7% had a
relapse respectively. It suggested that acupuncture combined with oral administration of Chinese herbal decoction achieved remarkable therapeutic effects in treating vascular headache, for which it is worth popularizing.

Moreover, it is suggested from the present study that there may be synergistic relations between acupuncture and medication, i.e., the effect of the combination may be better than any of the single one. Its mechanisms remain to be investigated further both basically and theoretically by elucidating regulative effects of acupuncture and pharmacological mechanisms of related Chinese herbs, so as to provide theoretical bases of the combined therapy for treating vascular headache to elevate its clinical therapeutic effects further.

REFERENCES

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