Clinical observation of treating Meniere's syndrome by combining modified Zhenwu decoction and acupuncture at Taichong acupoints

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Abstract. Objective: The aim of the research is to observe the therapeutic effect of combination of modified Zhenwu decoction and acupuncture at Taichong acupoints on Meniere's syndrome. Methods: Eighty-eight patients with Meniere's syndrome admitted in the traditional Chinese medicine (TCM) clinic of the hospital were randomly divided into four groups: a TCM group, an acupuncture group, a combined treatment group, and a western medicine group (n=22 in each group). Modified Zhenwu decoction was administrated in the TCM group; acupuncture at Taichong acupoints in both feet was performed in the acupuncture group; the combined treatment group received treatment applied in both the TCM and acupuncture groups simultaneously; and the western medicine group was treated with a vertigo drug, betahistine mesylate tablets. Before treatment, all patients were examined using the rating scale of severity of vertigo and the vestibular symptom index (VSI), to compare score differences. Conclusions: The four therapies all showed significant therapeutic effects on Meniere's syndrome. The comparison among groups revealed that the combined treatment group has better therapeutic effects than the other three groups, exhibiting a significant superiority (P < 0.05).

1. Introduction
Meniere's syndrome, a kind of disorders of the inner ear, was first proposed by a French physician Prosper Ménière in 1961. The main pathological change caused by the disease is end lymphatic hydrops, which is clinically shown as recurrent rotatory vertigo, fluctuating hearing loss, tinnitus, and otalgia. The currently known causes include infection (with bacteria, viruses, etc.), injury (mechanical injury or acoustic trauma), otosclerosis, syphilis, genetic factors, allergy, tumor, leukemia, and autoimmune diseases. The generally used western medicines for treating the disease include antiemetics, vasodilators, diuretics, and so on [1-3]. Furthermore, surgical treatment is also occasionally used to treat intractable vertigo patients who are failed in drug therapy, while such treatment is commonly destructive [4, 5]. Currently, it is regarded that the disease is caused by the disorder of the immune and circulatory systems of human body and its medication has also been improved [6]. In TCM, Meniere's syndrome is under the category of vertigo, and can be classified into types caused by hyper action of liver, deficiency of Qi and blood, turbidity-phlegm blocking, etc. It is stated in the Yuzhenyao Dalun (important intelligent
views) of Suwen (No include) (an ancient Chinese medical writing) that vertigo is caused by all kinds of wind attacking and shown as liver dysfunctions. Physicians in later ages also believe that phlegm and insufficiency are closely associated with vertigo.

The research took 88 Meniere's syndrome patients admitted in the TCM clinic as the research objects and randomly divided them into four groups, a TCM group, an acupuncture group, a combined treatment group, and a western medicine group. Modified Zhenwu decoction was administrated in the TCM group; acupuncture at Taichong acupoints in both feet was performed in the acupuncture group; the combined treatment group received treatment applied in both the TCM and acupuncture groups simultaneously; and the western medicine group was treated with a vertigo drug, betahistine mesylate tablets. All patients were examined using the rating scale of the severity of vertigo and the vestibular symptom index (VSI) before treatment. Basic criteria of therapeutic effects were set according to Criteria of Diagnosis and Therapeutic Effect of Diseases and Syndromes in Traditional Chinese Medicine, to compare therapeutic effects in the four groups and the scoring results of the therapeutic effects among these groups.

2. General data

2.1. Grouping of research objects
Eighty-eight patients of Meniere's syndrome admitted in the TCM clinic of the hospital were taken as the research objects, in which there were 46 males and 42 females, aged between 30 and 53 years old. They were randomly divided into four groups mentioned above, each with 22 patients. No significant differences existed in basic information of the patients, including the gender, age, course of disease, and symptoms (P > 0.05). Detailed information of the patients is listed in Table 1.

| Group               | n  | Gender | Age        | Course of disease (month) |
|---------------------|----|--------|------------|----------------------------|
| TCM group           | 22 | Male 13| 42.63 ± 8.23| 5.41 ± 3.56                |
| Acupuncture group   | 22 | Male 11| 41.86 ± 10.85| 5.48 ± 3.65                |
| Western medicine group | 22 | Male 10| 43.82 ± 8.47| 5.37 ± 3.54                |
| Combined treatment group | 22 | Male 12| 41.95 ± 11.73| 5.23 ± 3.97                |
| F                   | 22 | 0.91   | 0.25       | 0.45                       |

2.2. Symptoms
Sudden vertigo was the main complaint of all patients, who showed the four major symptoms of Meniere's syndrome, that is, vertigo, deafness, tinnitus, and otalgia. Some patients also had concomitant symptoms such as nausea and emesis (n=45), insomnia (n=30), and excessive phlegm (n=27). Detailed concomitant symptoms are shown in Table 2.

| Group               | Nausea and emesis | Insomnia | Excessive phlegm |
|---------------------|-------------------|----------|------------------|
| TCM group           | 12                | 8        | 7                |
| Acupuncture group   | 10                | 7        | 5                |
| Western medicine group | 11      | 7        | 7                |
| Combined treatment group | 12      | 8        | 8                |
| P                   | 0.48              | 0.29     | 0.63             |
3. Diagnosis criteria

3.1. TCM diagnosis
TCM diagnosis criteria accorded with those for vertigo disease set in the Criteria of Diagnosis and Therapeutic Effect of Diseases and Syndromes in Traditional Chinese Medicine released by the National Administration of Traditional Chinese Medicine. Patients with the following symptoms were diagnosed as having Meniere's syndrome: dizzy, rotating vision (ceasing in mild cases after closing eyes while severe ones feeling like taking a vehicle or ship), heavy sensation of head, chest distress, nausea, emesis, sputum, whitish glossy coating of the tongue, and wiry slippery pulse.

3.2. Western medicine diagnosis
The western medicine diagnosis followed relevant criteria in Practice of Internal Medicine.

3.3. Exclusion criteria
Meniere's syndrome patients diagnosed to be caused by organic lesions, such as craniocerebral space-occupying lesions, deformation and degeneration of cervical vertebra, and cerebrovascular anomaly through computerized tomography (CT) and magnetic resonance imaging were excluded. Meniere's syndrome patients treated with other prescription or having treatment interruption were also excluded.

4. Treatment methods

4.1. TCM group
Modified Zhenwu decoction was used in the TCM group and the basic prescription included Poria cocos (15-30 g), Radix paeoniae Alba (10-15 g), stir-fried Rhizoma atractylodis (15-25 g), Zingiber officinale (ginger, 10-15 g), processed Radix aconiti Lateralis (15-30 g), Gastrodia elata (10-15 g), and Uncaria rhynchophylla (12-15 g). The specific contents were determined according to symptoms of patients.

Prescription adjustment: For patients accompanied by nausea and emesis, ginger-processed bamboo shavings (15-20 g) was added in the prescription; Sisyphus jujube seeds (15-20 g), Poligala tenuifolia (12-15 g), and tuber fleece flower stem (15-20 g) were added in the prescription of patients with insomnia; Thunberg fritillary bulb (10-15 g) and bamboo shavings (10-15 g) were added for patients with excessive phlegm.

One dose of the above prescription was used daily. It was prepared by boiling out for 30 to 40 min in 500 mL of water. The obtained herb liquor of about 250-300 mL was orally taken in two times, half an hour after breakfast and supper. One course lasted for 10 days.

4.2. Acupuncture group
Taichong acupoints in both feet were acupunctured. The patients were in the supine position and the locations to be acupunctured were disinfected routinely with 75% ethyl alcohol by physicians.

Acupoint position: Taichong acupoint is a Shu and Yuan acupoint on the liver meridian of foot–Jueyin on dorsum of the foot, at the depression in front of the joint between the first and second metatarsals.

Acupuncture manipulation: Mild supplementation and draining acupuncture method was used and the needle retained for 15 min. One course lasted for 10 days.

4.3. Combined treatment group
Treatment methods taken in the TCM and acupuncture groups were used simultaneously.

4.4. Western medicine group
The patients received betahistine mesylate tablets as instructed (1 or 2 tablets per time, that is, 6~12 mg per dose, three times per day). The medicine was orally taken after meals and appropriately changed in dosage in accordance with ages and symptoms. One course lasted for 10 days.
5. Evaluation criteria of therapeutic effects

5.1. Basic criteria
The basic criteria for evaluating therapeutic effects were designed according to Criteria of Diagnosis and Therapeutic Effect of Diseases and Syndromes in Traditional Chinese Medicine as follows:

Significantly effective: After one to three courses, the vertigo disappeared and complications were cured, so that patients can return to work completely, with no recurrence during the treatment.

Effective: After one to three courses, the vertigo and complications were relieved, allowing patients to return to work, and no recurrence occurred during the treatment.

Ineffective: The symptoms were not relieved after two to three courses of treatment.

5.2. Rating scale of severity of vertigo
The rating scale of severity of vertigo mainly involved seven aspects: severity of vertigo, severity of dizziness, feeling nausea or not, Mann’s test, stepping test, spontaneous nystagmus, and Hallpike’s test, which were mainly used to evaluate patients’ severity of vertigo (dizziness) and balance ability. The results were graded at four levels: none, slight, moderate, and severe, which were scored 0, 2, 4, and 6, respectively.

5.3. VSI
The VSI was used to score six symptoms of the patients, that is, the balance, vertigo, dizziness, nausea, visual sensitivity, and headache, each at one of the 11 levels from score 0 to 10. The severity increased as the score rose from 0 to 10.

6. Evaluation of therapeutic effects

6.1. Basic evaluation criteria
The therapeutic effects in the four groups after three courses of treatment are listed in Table 3 and Figure 1.

| Group                   | n  | Significantly effective (%) | Effective (%) | Ineffective (%) | Overall response rate |
|-------------------------|----|-----------------------------|---------------|-----------------|-----------------------|
| TCM group               | 22 | 5 (23%)                     | 9 (41%)       | 8 (36%)         | 64%                   |
| Acupuncture group       | 22 | 4 (18%)                     | 8 (36%)       | 10 (46%)        | 54%                   |
| Western medicine group  | 22 | 4 (18%)                     | 7 (32%)       | 11 (50%)        | 50%                   |
| Combined treatment group| 22 | 9 (41%)                     | 10 (46%)      | 3 (13%)         | 87%                   |
6.2. Rating scale of severity of vertigo

Before treatment, there were no significant differences in the severity of vertigo among the four groups (P > 0.05), which was apparently improved in all groups after treatment. The comparison of therapeutic effects among groups revealed that the combined treatment group showed significant superiority in the effects (P < 0.05). The details are displayed in Table 4.

| Group                     | n  | Before treatment | After treatment | P      |
|---------------------------|----|-----------------|----------------|--------|
| TCM group                 | 25 | 34.2 ± 2.5      | 20.0 ± 1.5     | 0.21   |
| Acupuncture group         | 25 | 36.0 ± 1.2      | 19.5 ± 2.0     | 0.25   |
| Western medicine group    | 25 | 35.5 ± 1.5      | 21.5 ± 1.2     | 0.37   |
| Combined treatment group  | 25 | 36.5 ± 2.0      | 15.2 ± 2.5     | < 0.1  |

6.3. VSI

The four groups did not show significant differences in the VSI before treatment (P > 0.05) and VSI was apparently improved in all groups after treatment. The comparison of therapeutic effects among groups suggested that the combined treatment group exhibited significant superiority in the effects (P < 0.05). The details are displayed in Table 6.
7. Conclusions
By comparing the basic evaluation criteria, rating scale of severity of vertigo, and VSI of the patients before and after treatment, it can be found that the four therapies all improved symptoms of patients to different extents. The comparison of therapeutic effects among groups indicated that the combined treatment group showed the optimal effects and significant superiority to the other three groups (P < 0.05).

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