



The Efficacy of Electroacupuncture In the Treatment of Post-Covid Dizziness

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Abstract

Objective: This article is aimed at demonstrating the effectiveness and safety of electroacupuncture in treating post-COVID-19 dizziness in 35 cases in eastern Canada.

Method: 35 patients suffering from dizziness after a Covid-19 infection were divided into 4 groups according to their main symptoms and were treated with electro-acupuncture using the acupoints Baihui (DU20), Yintang (EX-HN 3), and Fengchi (GB20).

Results: of the 35 patients, 30 cases were clinically cured, and 5 cases were ineffective. The rate of overall effectiveness was 85.7%.

Conclusions: Acupuncture significantly decreased the symptoms of post-COVID-19 dizziness; restored the healthy functioning of the brain, liver, kidneys and spleen; and the patient's physical condition and quality of life improved.

Keywords: Post COVID-19, Dizziness, Electroacupuncture, TCM, Acupuncture

Introduction

Since the outbreak of COVID-19, the very high prevalence of the novel coronavirus COVID-19 and its variants means that millions of people are currently at risk of suffering from dizziness following an infection. Dizziness is a common feature of a COVID-19 infection and, in many patients, the dizziness begins at the time of the initial infection. However, loss of balance and dizziness can also start weeks after contracting COVID-19. To date, case reports show that 20% of those infected with COVID-19 present with dizziness [1], the definition of which is the sensation of disturbed or impaired spatial orientation without a false or distorted sense of motion [2]. It can be the direct consequence of a viral disease which has affected the vestibular functions along the virus widespread course from the inner ear to the brain [3]. Tinnitus, vertigo and dizziness are symptoms commonly reported among post-COVID patients [4]. Dizziness is a clinical problem which cannot be ignored.

According to traditional Chinese medicine (TCM) theory, the pathogenic factors of dizziness are liver fire, evil wind, phlegm and dampness, and deficient qi and blood. Discussions on the etiology and pathogenesis of dizziness by TCM physicians

throughout dynasties have been continuously improved and can be summarized as follows:

1. The earliest records of dizziness in Traditional Chinese Medicine (TCM) can be found in the ancient treatise *The Yellow Emperor's Classic of Internal Medicine* (in Chinese: *黄帝内经*): "All wind with dizziness and shaking is ascribed to the liver."
2. Zhang Jingyue, a classical physician from the Ming Dynasty (1563-1640), provided the core thoughts on dizziness in his monumental work, *The Complete Compendium of Zhang Jingyue* (in Chinese: *景岳全书*): "The cause of the origin of the disease of dizziness is that qi is deficient, and fresh air cannot rise. The weak spleen and stomach cause the deficiency of qi and blood, which is a significant cause of dizziness." The deficiency of blood results in the inability of yang qi to rise, and the deficiency of blood results in the loss of nourishment for the liver and the insufficiency of wind. Both of these factors can lead to dizziness.
3. Zhu Zhenheng, a great master of internal medicine from the Yuan Dynasty (1281-1358), wrote in his book *The Heart and Essence of Dan-xi's Methods of Treatment* (in Chinese: *丹溪心*

法): “No phlegm, no dizziness.” He explained that excessive alcoholism or the over-eating of fat and sweet food damage the spleen and stomach qi, which results in the accumulation of phlegm in the middle burner. Consequently, the yang qi cannot rise which results in dizziness.

4. Chao Yuanfang, a Chinese physician and medical author from the Sui Dynasty (550–630), in the first treatise in TCM on pathology, *A General Treatise on Causes and Manifestations of All Diseases* (in Chinese: 诸病源候论), pointed out that the invasion of evil wind can cause dizziness: “The dizzy head in the wind is caused by the deficiency of blood and qi. The evil wind enters the brain which causes the eye to be anxious and dizziness.”
5. Yu Tuan, a famous physician from the Ming Dynasty (1438–1517), in his foundational treatise *Medical Story* (in Chinese: 医学正传), proposed, for the first time ever, that dizziness was caused by blood stasis: “There are people who are dizzy due to vomiting blood; there is blood stasis in the chest and the heart.” Blood stasis causes the qi and blood to stop circulating. Unable to ascend to the head, dizziness results.

General Information

Data was collected from 35 patients with post-COVID-19 dizziness as the core clinical manifestation in Montreal at Acuennergie Acupuncture Clinic from June 2021 to June 2022. The age of the patients ranged between 35 and 55, and the breakdown of case distribution according to age range was as such: age 35 to 40, 9 cases; age 41 to 45, 10 cases; age 46 to 55, 16 cases. There were 15 cases of men and 20 cases of women. The average age was (45.37 ± 5.84) years.

The most common clinical symptoms related specifically to dizziness are summarized as follows: generalized dizziness; a drunk or tipsy feeling without having had any alcohol; light headedness or a floating feeling; vertigo or a spinning sensation, particularly when looking up or down, or lying on his/her side; a sensation of swaying or rocking when sitting or lying, or after a quick movement; a loss of balance when standing or changing positions; problems walking in a straight line; nausea or vomiting; vision issues such as blurriness, double vision, trouble looking at screens or fast moving or busy scenes.

Syndrome Differentiation in TCM

The 35 patients were divided into four groups based on whether their main symptoms were related to liver-yang hyperactivity, qi and blood deficiency, phlegm and dampness, or blood stasis.

Hyperactive liver-yang: Main symptoms: dizziness with tinnitus, a ringing in the ear (sounds like a cicada) accompanied by nausea, vomiting, sweating, sore lower back and knees, irritability and impatience, a bitter taste in the mouth, a red tongue with a yellow coating, and a stringy pulse.

Treatment strategy: soothe the liver qi and subdue yang; tonify kidney qi and nourish yin, clear the liver fire and extinguish the wind.

Qi and blood deficiency: Main symptoms: generalized dizziness,

loss of balance, inability to stand and sometimes even falling over, dark circles under the eyes, blurriness and double vision, fatigue, loss of appetite, a pale complexion, heart palpitations, insomnia, a pale tongue with a white coating, a thin and deep pulse.

Treatment strategy: nourish qi and blood; strengthen the spleen and kidney qi.

Phlegm and dampness: Main symptoms: paroxysmal dizziness, visual rotation, headaches, tinnitus, nausea, tightness in the chest, a red tongue with a thick greasy coating, a slippery pulse.

Treatment strategy: strengthen the spleen and stomach qi, clear dampness and phlegm.

Blood stasis: Main symptoms: dizziness, headaches, neck and shoulder pain accompanied by a dark complexion, heart palpitations, insomnia, a dark red tongue or ecchymosis, and a choppy pulse.

Treatment strategy: Promote the circulation of qi and blood, remove blood stasis, dredge and unblock the meridians and collaterals, relieve the pain.

Treatment Methods

Acupoints: Group 1 Electro-Acupoints: Baihui (DU20), Yintang (EX-HN 3), Fengchi (GB20).

Group 2 Auricular Points: Dizziness zone, External sympathetic, Liver, Occiput.

Group 3 Body Acupoints: Zusanli (ST36), Sanyinjiao (SP6), Hegu (LI4), Taichong (LIV3).

Hyperactive liver-yang: Group 1,2,3, Ganshu (BL18), Neiguan (PC6)

Qi and blood deficiency: Group 1,2,3, Pishu (BL20), Qihai (REN 6)

Phlegm-dampness: Group 1,2,3, Zhongwan (REN 12), Fenglong (ST40)

Blood stasis: Group 1,2,3, Xuehai (SP10), Geshu (BL17)

Acupuncture Manipulation

After disinfecting all points with a cotton ball dipped in alcohol, the order of inserting the needles is from the lower limbs to the head, starting on the left side of the body and finishing on the right side. Disposable sterile needles, size 0.25x25 mm, are used and are inserted perpendicularly in all points to a depth of 10 to 15 mm. Acupuncture points are needled bilaterally.

An electro-acupuncture stimulator (model KWD-808I, brand Great Wall) is connected ipsilateral at three acupoints located on the head (Baihui, Yintang and Fengchi) and set to a continuous wave, the intensity of which is based on the patient's preference. The needles remain inserted for 30 minutes each session.

The 3 acupoints (Baihui, Yintang and Fengchi) used for electro-acupuncture. The remaining points were used without electro-acupuncture.

Frequency: 1 treatment a week, 12 times per treatment course. The

three groups of acupoints are used in each session. The needling technique is the even reinforcing-reducing method.

Outcomes

Of the 35 patients, 30 cases were clinically cured, and 5 cases were ineffective. The rate of overall effectiveness was 85.7%.

The total rate of clinically cured patients = the number of patients cured / the total number of patients × 100%.

Table 1: Outcomes of the 35 cases (n (%)).

Causes of dizziness in TCM	Number of cases	Clinically cured	Ineffective	Total rate of clinically cured
Hyperactive liver-yang	15	13	2	86.67%
Qi and blood deficiency	10	9	1	90%
Phlegm and dampness	6	5	1	83.33%
Blood stasis	4	3	1	75%
Total	35	30	5	85.71%

Discussion

From the perspective of TCM etiology and pathology, COVID-19 is caused by the invasion of the body by “Cold-Damp with Toxins” primarily in the lungs and spleen, and can involve the stomach and large intestine as well [5]. COVID-19 not only damages the respiratory system, but also damages the brain, lungs, heart, liver, kidneys, blood system, nervous system, and reproductive system [6-8]. Most people infected with SARS-CoV-2 virus (the virus that causes COVID-19) will have no or mild to moderate symptoms associated with the brain or nervous system [9]. However, some patients develop neurological manifestations ranging from mild symptoms such as anosmia, dizziness, and headache after a COVID-19 infection [10].

According to TCM theory, dizziness is caused by hyperactive liver-yang, qi and blood deficiency, spleen and stomach qi deficiency, phlegm and dampness, invasion of evil wind, and internal blood stasis. Acupuncture treats dizziness by using specific acupoints to calm the liver-yang, nourish the liver and kidney qi, activate the blood and dredge the collaterals. In this case study, the treatment strategy determined was to use electroacupuncture at the acupoints Baihui (DU20), Yintang (EX-HN 3) and Fengchi (GB20). The combination of the three acupoints functioned to soothe the liver and regulate the governor meridian, clear the obstruction of the brain, raise the yang qi, tonify qi, and balance yin and yang.

The functions of each acupoint are listed below.

The Baihui (DU20) acupoint is the meeting point of the governor meridian, the three yang meridians of the hand and foot, and the liver meridian. Baihui is located above the brain, which is the organ of the primordial spirit. Therefore, this point can regulate the mind, refresh the mind, relieve evil wind and resolve phlegm.

Yintang (EX-HN 3) is an acupoint on the extraordinary meridian, which clears the head and treats dizziness.

The Fengchi (GB20) acupoint belongs to the gallbladder meridian and is the meeting point of the Shaoyang meridian of the hand and foot, and the Yangwei meridian. It is the gateway where wind enters the brain. This acupoint can expel wind and is the key point for treating wind. It is mainly used for dizziness.

The Zusanli (ST36) acupoint is the most important point on the stomach meridian, which regulates the spleen and stomach, and qi and blood, and has the special functions of invigorating the spleen and qi, which strengthen the immune function of the body.

Sanyinjiao (SP6) is the meeting point of the three yin meridians of the foot, which strengthen the spleen, soothe the liver and benefit the kidneys.

Hegu (LI4) is Yuan-Source Point of the large intestine meridian, which has the functions of dispelling wind and relieving superficialities, clearing heat and opening the orifices, dredging the meridians and activating the collaterals, and sedating and relieving pain.

Taichong (LIV3) is the Yuan-Source Point of the liver meridian, which has the effect of calming the liver and calming shock, soothing the liver and regulating qi.

Hegu (LI4) and Taichong (LIV3) are compatible acupoints. The combination of Liv3 and LI4 is classically known as “The Four Gates” of the body, which promote the circulation of qi. Applying different reinforcing and reducing methods has a variety of treatment functions, such as expelling wind, relieving superficialities, widening the chest, regulating qi, calming the liver, eliminating wind, sedating and soothing the nerves, relieving spasms and convulsions, promoting blood circulation, removing blood stasis, clearing heat, removing dampness, unblocking qi in the stomach and intestines, clearing the meridians of obstruction, relieving pain, purging the lungs, resolving phlegm, soothing the liver, relieving the gallbladder, invigorating qi and blood, and reinforcing the liver and kidneys.

Neiguan (PC6) is a key point for moving qi and blood in the chest. It nourishes heart qi, nourishes the blood, calms the mind and stops dizziness.

Qihai (REN-6) is one of the most important points for tonifying yang and primordial qi.

Xuehai (SP10) represented the “Sea of Blood”. It invigorates, moves and cools the blood.

Fenglong (ST40) is known as the phlegm point. It helps resolve phlegm throughout the body.

Electroacupuncture has both anti-inflammatory and cardioprotective effects [11]. The continuous wave of an electroacupuncture device enhances the effects of expelling wind and cold, and regulates qi and blood. It dilates the blood vessels in the brain, which increases cerebral circulation, improves a hypoxic-ischemic state, and relieves dizziness.

Conclusion

This article shows that electroacupuncture is an effective treatment for post-COVID-19 dizziness. It also shows that electroacupuncture is an effective method of improving a patient's health outcomes naturally.

Authorship and Contributions

Xiangping Peng wrote the manuscript. Guanhu Yang contributed on the use of Traditional Chinese medicine (TCM) theory for dizziness.

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Conflict of Interest

The authors declare no conflict of interest.

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