

Treatment of Ménière's Syndrome with Traditional Chinese Medicine

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Abstract—Ménière's syndrome is an idiopathic disease of the inner ear, previously known as Ménière's disease, firstly proposed by French doctor Prosper Ménière in 1861. The main pathological impact of this disease is endolymphatic hydrops, and its clinical manifestations are recurrent attacks of vertigo, fluctuating hearing loss, tinnitus and aural fullness. Ménière's syndrome mostly occurs in the young and middle aged (30–50 years old), but rarely in children. There is no significant difference in morbidity rates between males and females. It belongs to the category of vertigo in traditional Chinese medicine.

Keywords: Ménière's syndrome, Vertigo, Traditional Chinese Medicine

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1. WESTERN ETIOLOGY AND PATHOGENESIS

The factors and pathogenesis of Ménière's syndrome are still unclear. In 1938, Hallpike and Cairns reported that the main pathological factor of this disease is endolymphatic hydrops, and this finding has been demonstrated by many scholars [1]. However, the generation of endolymphatic hydrops can hardly be clearly explained. Inducing causes known at present are as follows: various infection factors (bacteria, viruses, etc.), injuries (mechanical injury or noise-induced injury), otosclerosis, syphilis, genetic factors, allergy, tumors, leukemia, autoimmune diseases, etc.

DeSousa (2002) named the vestibular symptoms induced by endolymphatic hydrops with known causes as Ménière's syndrome, while Ménière's disease involves idiopathic endolymphatic hydrops.

2. CLINICAL MANIFESTATIONS

Four typical symptoms of Ménière's syndrome are as follows: vertigo, hearing loss, tinnitus and aural fullness.

2.1. Vertigo

The vertigo in question is mostly sudden rotatory vertigo. Patients often feel that surrounding objects are rotating in a direction around themselves, which can be relieved after eye closure. The vertigo is often accompanied by autonomic reflex symptoms such as nausea, vomiting, pallor, cold sweat and hypotension.

Any head movements can aggravate this vertigo. Patients are conscious throughout episodes, and some patients are conscious even when they suddenly fall down. The duration of the vertigo is usually tens of minutes to several hours, with the longest duration less than 24 hours. After continuing for a period, the vertigo will abate, and the symptoms will disappear. The duration of intermission varies from several days to several years among individuals. The vertigo may involve repeated attacks, with the duration and severity of each attack varying among patients. More attacks of vertigo are associated with each attack having a longer duration and shorter intermission.

2.2. Hearing Loss

In early stage, the deafness is usually sensorineural hearing loss with low frequency hearing loss (125–500 Hz), which may be paroxysmal or fluctuating. Hearing decreases during the attack, but recovers partially or completely during intermission. With the progression of the disease, the hearing loss may aggravate gradually, and high frequency hearing loss (2–8 kHz) will gradually present. A special hearing change phenomenon may occur in this disease: diplacusis, namely a single auditory stimulus can be perceived by the affected ear and healthy ear as two sounds which may differ in pitch and timbre, or the patient may describe that they can hear an end sound.

2.3. Tinnitus

Tinnitus may be the earliest symptom of this disease, manifested as a persistent low-pitched blowing sound, whereas noises with various tones, such as the sound of a bell, song of cicada or aeolian tone, can present in an advanced stage. The tinnitus can suddenly occur or be aggravated before a vertigo attack. It disappears during intermission, but some patients with a long illness can have persistent tinnitus. A few patients may have bilateral tinnitus.

2.4. Aural Fullness

During the vertigo attack, the affected ear may have aural fullness, compression and heaviness. A few patients describe mild pain and itching of the affected ear.

3. Key points of diagnosis

(1) The disease usually occurs in middle aged people after fatigue, emotional changes and a lack of sleep.

(2) The patient has paroxysmal vertigo, which is rotatory or up and down, accompanied by spontaneous nystagmus, nausea, vomiting, pale face, cold sweat, etc. The vertigo attack can last for several minutes or several hours, and the patient is conscious during the attack.

(3) The patient has persistent tinnitus, which is aggravated before the attack.

(4) The patient has sensorineural hearing loss, which fluctuates before and after the attack, and there is a phenomenon of "hypersensitivity" to high pitch.

(5) Head and aural fullness.

(6) Examination: Tympanic membrane is normal. Horizontal or slightly rotatory nystagmus can be observed during the attack. Hearing test shows sensorineural hearing loss, with recruitment. Vestibular function test shows decreased function during attack.

(7) Glycerol test is positive, which is mainly used to judge whether there is endolymphatic hydrops. Glycerol has high osmotic pressure, and its molecular diameter is smaller than that of poles on cell membrane, so that it can diffuse to the border cells of inner ear and increase the intracellular osmotic pressure, allowing the water in endolymph to enter the blood vessels of striavascularis via cellular channel to achieve decompression.

(8) Vestibular function test.

(8.1) Caloric test shows that the vestibular function of the affected side in the early stage may be normal or mildly decreased. After multiple attacks, directional preponderance of healthy side can be observed. In the advanced stage, canal paresis or loss of function can occur.

(8.2) Vestibular evoked myogenic potential can present abnormal amplitude and threshold.

(8.3) When there is adhesion between the stapes footplate and distent saccule, the increase or decrease of air pressure in the external auditory canal can induce vertigo and nystagmus. Henenbert sign can be positive in patients with Ménière's disease.

(9) Imaging examination.

Temporal CT can reveal stenosis of vestibular aqueduct. With special contrast, an MRI of the inner ear membranous labyrinth can reveal that the endolymphatic duct of some patients is narrow.

(10) Immunological examination

Some patients have HSP70 antibody and 68 kD antigen antibody.

4. DIFFERENTIAL DIAGNOSIS

Before Ménière's syndrome is confirmed, various diseases that may cause vertigo should be excluded, such as central nervous system diseases, vestibular system diseases and diseases of other systems.

4.1. Central Nervous System Diseases

Acoustic neuroma, multiple sclerosis, aneurysm, cerebellar or brain stem tumors, cervical vertigo, Arnold-Chiari malformation, transient ischemic attack, cerebrovascular accident, insufficient cerebrovascular supply, etc. Particularly for an acute vertigo attack, acute diseases of neurology should be excluded first, such as Wallenberg syndrome, posterior circulation ischemia and cerebrovascular diseases.

4.2. Peripheral Diseases

Benign paroxysmal positional vertigo, vestibular neuritis, vestibular drug poisoning, labyrinthitis, sudden deafness, Hunt syndrome, otosclerosis, autoimmune inner ear disease, perilymphatic fistula, etc.

4.3. Metabolic Diseases

Diabetes, hyperthyroidism or hypothyroidism, Cogan syndrome, blood diseases, autoimmune diseases, etc.

4.4. Diseases of Other Systems

Heart disease, primary hypertension, etc.

5. WESTERN MEDICAL TREATMENT

5.1. Surgery can be used for treatment of Ménière's syndrome. Surgery has not been used for the treatment of Ménière's syndrome in the global medical field for a very long time [2]. In 1957, labyrinthectomy and cochlear vestibular neurectomy were performed. In 1966, surgeries were summarized as three types: destructive type, semi-destructive type and conserva-

tive type. Briefly, there are many conservative surgeries, such as endolymphatic sac incision, saccule decompression, sympathectomy, chorda tympanectomy, endolymphatic subarachnoid shunt operation, stapes footplate fenestration, and endolymphatic mastoid shunt. Comprehensively, the most common surgery is fenestration decompression. Recently, the international vertigo conference summarized that the efficacy of surgery is unsatisfactory, but short time fenestration decompression may have some effects.

5.2. Infusion can be used for treatment of Ménière's syndrome [3]. Currently, infusion is generally used during attack of Ménière's syndrome. Infusion has been demonstrated by clinical evidence to be able to relieve most types of vertigo. Adding diuretics into the liquid can achieve better efficacy, because it can temporarily reduce the endolymphatic pressure in the organ of equilibration and thus relieve the symptom of vertigo. Therefore, infusion is a symptomatic treatment but not curative treatment.

5.3. Drugs can be used for treatment of Ménière's syndrome. At the beginning of his research on vertigo, Doctor Ménière identified the position of vertigo and its pathogenic mechanism through anatomy. His work made a great contribution to vertigo research, leading many countries and doctors to be devoted to treatment research of Ménière's syndrome, with drug therapy as the focus. With Ménière's syndrome as the focus, many drugs have been studied, but no ideal drugs have been identified from ancient times to the present. Two reasons have been confirmed through extensive data to explain why the therapeutic efficacy on Ménière's syndrome is unsatisfactory.

First, the important part involved in this disease is millimeter-grade in size, which exists in temporal bone and is close to the inner ear. Around the world, no drug can penetrate to this part at present [4].

Second, the drug is distributed across the whole body, but little can reach the labyrinth. The important component of vertigo is millimeter-grade in size, so even if the drug can penetrate into this part, it will have very little effect. Therefore, the therapeutic efficacy of treatments on Ménière's syndrome is always unsatisfactory [5]. This is why Ménière's syndrome is recognized as problem worldwide.

6. ETIOLOGY AND PATHOGENESIS IN TRADITIONAL CHINESE MEDICINE

In Chinese medicine, Ménière's syndrome is mainly categorized as Xuanyun, vertigo. The accompanied symptoms of Ménière's syndrome are associated with Chinese diagnosis of tinnitus, nausea and vomiting.

Ménière's syndrome is mainly caused by Wind, Fire, Phlegm and Deficiency, Deficiency in origin and Excess in superficiality. The affected region is the

heart orifice, associated with the liver, spleen, and kidney.

The Yellow Emperor's Inner Classic said: "All wind with vertigo and shaking is ascribed to the liver". "Insufficiency of Marrow Sea causes vertigo, tinnitus, weakness and soreness of legs, dizziness, blindness, sluggish, and lethargy". Dr. Zhang, Zhongjing in the Han dynasty often diagnosed vertigo as being due to cold congested fluid, to be treated with fluid transforming formulas. Dr. Zhu, Danxi in Yuan dynasty said: "Vertigo cannot occur without phlegm". He mentioned that the vertigo is raised by phlegm, qi deficiency and fire, and therefore the treatment should be focused on clearing the phlegm as well as tonifying qi and downbearing fire. In addition, vertigo cannot occur without phlegm and the phlegm is activated by fire. Vertigo can also be formed by phlegm and stasis obstructing the orifices. Dr. Zhang, Jingyue in the Ming dynasty said: "vertigo cannot occur without deficiency".

In five element theory, the liver belongs to wood and wind, its direction is ascending, and it is an active viscera. Excessive emotions such as frustration, depression and anger induce liver Qi constraint and turn to liver fire, inducing liver Yang rising, engendering the internal movement of liver wind, disturbing head orifices, leading to vertigo.

With an improper diet, such as over eating spicy, acrid, sweet and greasy foods or drinking alcohol, dampness is engendered internally, and may transform into phlegm. As phlegm turbidity accumulates in the middle energizer, the pure Qi and Yang is unable to be transported upward, thus resulting in vertigo.

Excessive emotions causing liver Qi stagnation overacting on the spleen, or excessive worry and thinking damaging the spleen directly may result in spleen Qi deficiency, and dysfunction in transportation and transformation. In this case, food and water are unable to transform into energy, but just generate phlegm-dampness, and phlegm turbidity may obstruct the middle energizer, block the clear orifices and hence cause dizziness and vertigo. If lingering phlegm dampness turns to phlegm fire which rebelliously attacks upward, vertigo can occur.

Natural endowment insufficiency, aging, enduring disease, drug use, and excessive sexual activity may all result in kidney essence insufficiency. Essence engenders the marrow which gathers in the brain. If kidney essence insufficiency fails to fill the brain with marrow, vertigo may occur. Kidney Yang deficiency can lead to the inability to warm and steam body fluid into urine, resulting in cold fluid retention in the lower energizer which rebelliously attacks upward, also resulting in vertigo.

Liver Qi stagnation may induce blood stasis; with spleen Qi deficiency resulting in inability to transport the blood resulting in blood stasis; after a long course of disease, the pathogen often enters the blood and

collaterals stage, causing blood stagnation, with the stasis and phlegm emerging to block the clear orifices, again causing vertigo to occur. Blood stagnation affects water metabolism, resulting in fluid retention making such vertigo even worse. Therefore, during the process of Ménière's syndrome, different syndromes may transform each other, and may combine. For example, Wind-Yang rising may combine with phlegm-fire, or Kidney deficiency may cause liver Yang rising, thereby leading to a concurrent excess and deficiency pattern in the clinic.

7. DIAGNOSIS OF THE PATTERN IDENTIFICATION

7.1. Ascendant Hyperactivity of Liver Yang/Phlegm-Fire Combination

Main symptoms: Vertigo occurring with mood swings, accompanied by tinnitus with a loud noise, possible diminished hearing, irritability, easy anger, distending headache, stuffy ears, red eyes, bitter taste in the mouth and dry throat, red tongue with yellow coat, wiry and rapid pulse.

Principle of treatment: Liver-pacifying and wind-extinguishing, enrich yin and subdue yang.

Formula: Zhen Gan Xi Feng Tang (Sedate the Liver and Extinguish Wind Decoction), modified.

Ingredients: Main herbs: Bai Shao 15g, Xuan Shen 15g, Long Gu 18g, Mu Li 18g, Dai Zhe Shi 15g, Gui Ban 15g, Tian Ma 9g, Gou Teng 15g, Xia Ku Cao 15g, Ye Jiao Teng 15g, Niu Xi 9g.

Acupuncture: GB 34 (Yanglingquan), Lv 3 (Taichong), SJ 5 (Waiguan), GB 8 (Shuaigu), St 40 (Fenglong), GB 43 (Xiapi), UB 18 (Ganshu), St 36 (Zusanli), PC 6 (Neiguan).

7.2. Spleen-Stomach Disharmony/Phlegm Turbidity Obstructing the Middle Energizer

Main symptoms: vertigo with heavy headedness as if bound by a cloth, worsening with movement, tinnitus with a low sound, decreased hearing, sallow complexion, chest oppression, sluggish limbs, lethargy, profuse phlegm, nausea and vomiting, poor appetite, loose stool and diarrhea, white and greasy coating, wiry and slippery pulse.

Principle of treatment: Strengthen the spleen and harmonize the middle energizer, transform phlegm and settle the vertigo.

Formula: Ban Xia Bai Zhu Tian Ma Tang (Pinellia, Gastrodia&Atractylodes Decoction), modified.

Ingredients: Zhi Ban Xia 9g, Bai Zhu 9g, Fu Ling 15g, Ju Hong 9g, Tian Ma 9g, Mu Li 30g, ZeXie 15g, Cang Zhu 9g, Zhu Ru 9g, Sheng Jiang 9g, Shen Qu 9g.

Acupuncture: St 36 (Zusanli), St 40 (Fenglong), PC 6 (Neiguan), Sp 6 (Yinlingquan), Lv 3 (Taichong).

Only Tian Ma can remove the vertigo combined with dark eye lids, from Treatise on the Spleen and Stomach, Li Dongyuan

7.3. Qi Deficiency with Phlegm/Deficiency in Spleen and Stomach

Main symptoms: Recurrent vertigo worsened by standing and lessened by lying flat, triggered by exertion, accompanied by tinnitus with a low sound like a cicada chirp, pale complexion, lassitude, shortness of breath, slothful speech, soreness and weakness in the lower back and knees, forgetfulness and dream-disturbed sleep, frequent urination at night, pale and puffy tongue with thin white and moist coating, deep, thready and weak pulse.

Principle of treatment: augment spleen Qi, raise Yang, warm the kidney, promote urination and stop vertigo.

Formula: Bu Zhong Yi Qi Tang (Tonify the Middle energizer and augment the Qi decoction), Wu Ling San (Five-Ingredient Powder with Poria) and Zhen Wu Tang (True Warrior Decoction), modified.

Ingredients: Ren Shen 6g, Bai Zhu 9g, Fu Ling 15g, Huang Qi 18g, Chen Pi 6g, Sheng Ma 3g, Dang Gui 9g, Chai Hu 3g, ZeXie 9g, Zhu Ling 9g, GuiZhi 9g, Zhi Fu Zi 9g, Bai Shao 9g, Sheng Jiang 9g, ZhiGan Cao 6g.

Acupuncture: Ren 6 (Qihai), Ren 4 (Guanyuan), Pc 6 (Neiguan), St 36 (Zusanli), Kd 3 (Taixi), St 40 (Fenglong).

7.4. Mixture of Blood Stasis and Phlegm Accumulation Obstructing Clear Orifices

Main symptoms: Chronic recurrent vertigo, accompanied by tinnitus with earache, stabbing headache, insomnia, palpitations, dark eye lids, dusky tongue with ecchymosis and petechia, and engorged veins underneath, wiry and choppy pulse. It is due to lymphatic channel inflammation and blood congestion finally leading to blockage, resulting in labyrinth edema.

Principle of treatment: invigorate Blood, remove stasis, resolve phlegm, and unblock channels to open the orifices.

Formula: Tong QiaoHuoXueTeng (Unblock Orifice and Invigorate Blood Decoction), Wu Ling San (Five-Ingredient Powder with Poria), Ban Xia Bai Zhu Tian Ma Tang (Pinellia, Gastrodia&Atractylodes Decoction), modified.

Ingredients: Chi Shao 9g, ChuanXiong 12g, Tao Ren 9g, Hong Hua 6g, Sheng Jiang 9g, Fu Ling 12g, Lu Lu Tong 12g, Wang Bu Liu Xing 12g, Zhu Ling, ZeXie 9g, Ban Xia 9g, Tian Ma 9g, Bai Zhu 9g, Chen Pi 9g, Cong Bai 9g, Mu Li 15g.

Acupuncture: UB 17 (Geshu), Sp 10 (Xuehai), St 36 (Zusanli), St 40 (Fenglong), Du 20 (Baihui).

8. CLINICAL EXPERIENCE

(1) Pay attention to the acupoints with the word Feng in them, i.e., DU 16 (Fengfu), GB 20 (Fengchi), SJ 17 (Yifeng). These points are closely connected with the liver and gallbladder meridian.

(2) Improving the neck blood and lymph circulation. If there is tenderness in the neck sternocleidomastoid muscle, loosen the nodules in Tianchuang (SI16) and Futu (LI18).

(3) Keep a smooth connection between the conception vessel and governor vessel by relaxing Ren17 (Danzhong), Ren 12 (Zhongwan), Ren 4 (Guanyuan), Ren 6 (Qihai) these are located on the conception vessel and Du 20 (Baihui) on governor vessel, to balance the longitudinal line.

(4) Maintaining the three transverse lines, Ren 17 (Danzhong) line, Ren 12 (Zhongwan) line and Ren 8 (Shenque) line, in the body to balance it.

(5) Maintaining the smooth flow of the large and small intestine. It is said in the Yellow Emperor's Internal Classic that the large intestine governs fluid diseases and the small intestine governs humor sickness. Endolymphatic hydrops is closely linked to the large and small intestine meridian so that LI 4 (Hegu) and SI 3 (Houxi) are normally chosen. Houxi connects to governor vessel as well.

(6) Herbs with properties of tranquillizing and calming the heart are used in the whole course of the disease as well as PC 6 (Neiguan) and HT7 (Shenmen).

(7) Removing and clearing the phlegm is the most important method of treating this disease.

St 40 (Fenglong) point is derived from the chapter of Channel in The Miraculous Pivot which possesses the function of mediating stomach qi, resolving phlegm and dispelling dampness, unblocking the meridian and activating the collateral, tonifying Qi and blood, opening and calming the mind as well as being the main point for removing phlegm.

"If phlegm is formed, St 40 (Fenglong) is the best way to treat it" from Jade Dragon Formulae.

"Headache caused by wind and the phlegm, puncture St 40 (Fenglong) one half cun, moxibustion will work as well. All the coughs led by phlegm, St 40 (Fenglong) and Ren 12 (Zhongwan) will help" from the Compendium of Medicine written by Louying.

9. NURSING

Patient should switch to a low salt, light diet. Sugar and milk products should be avoided. A daily intake of salt <1.0 g is recommended [6]. Water intake should be properly controlled. Patient should avoid fatigue and irregular life, keep a good mood, avoid negative emotions such as depression, and guarantee enough sleep. During attacks, the patient should rest in bed, and avoid light and strong sounds as far as possible. During intermission, it is recommended that the patient should take more exercise and strengthen their physique. Cigarettes, wine, strong tea and coffee should be avoided. Patient should avoid contact with allergens, control systematic allergic diseases and actively treat systematic concomitant diseases.

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