

Research Progress of Chinese and Western Medicine in the Pathogenesis and Treatment of Vertigo

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Abstract. In recent years, with the progress of society and the change of lifestyle, the incidence of vertigo is gradually increasing. However, the current understanding of the pathogenesis and treatment of vertigo is limited, which leads to poor clinical diagnosis and treatment effect. The author analyzed the pathogenesis and treatment methods of vertigo from the perspectives of Western medicine and traditional Chinese medicine respectively, and summarized the related factors of vertigo, the research progress of traditional Chinese and western medicine treatment methods of vertigo, and the latest application research status of new ideas and new ideas for vertigo treatment. Based on the incidence types of vertigo, the overall concept and dialectical thinking of traditional Chinese medicine are put forward to guide the clinical treatment. The objective is to explore the advantages and disadvantages of Western medicine and traditional Chinese medicine in the treatment of vertigo, and integrate their advantages and disadvantages, in order to provide the best treatment plan for more vertigo patients, so as to improve the quality of life of patients.

Keywords: Vertigo; Clinical Treatment; Chinese Medicine Treatment; Western Medicine Treatment.

1. Introduction

Vertigo is a false perception of one's own sense of balance. It often occurs when one feels a change in the position of oneself or an external object, such as rotation, lifting and tilting. At the same time, vertigo is one of the most common clinical symptoms, characterized by episodic dizziness, visual rotation, spatial disturbance, ataxia, vertigo accompanied by nausea, vomiting, can be accompanied by hearing loss, severe cases can have vision loss, even syncope, convulsions and other symptoms. Vertigo is considered to be a nonspecific systemic disease with complex pathogenesis. In traditional Chinese medicine, vertigo is mainly caused by qi and blood disorders, impassability of meridians, Yin deficiency of liver and kidney, and internal resistance of phlegm and dampness. In Western medicine, it is often divided into vestibular vertigo and Meniere disease (Meinersendisease), both of which are common diseases of otolaryngology. In addition, it is also involved in internal medicine, neurology and orthopedic diseases. And its clinical treatment methods are varied, but the effect varies from person to person. Therefore, this paper summarizes the relevant data published in recent years, aiming to summarize the treatment methods of vertigo, in order to provide help for clinicians to better treat this symptom.

2. Types and Causes of Vertigo

2.1 Western Medicine's Understanding of Vertigo

Vertigo is a kind of motion or position illusion caused by the disturbance of spatial orientation of the body. Clinical vertigo types are various, can be roughly divided into peripheral vertigo, cervical vertigo, central vertigo and other types of vertigo and so on. This disease can be caused by cerebellar hemorrhage, brain stem tumors and other diseases, as well as drug factors, surrounding living environment factors and unhealthy lifestyle and diet. The main clinical manifestations of vertigo are dizziness, green face and white lips, sweating and other symptoms. Western medicine has different treatment methods for different types of vertigo in clinic, and the clinical therapeutic effect is also different to a certain extent [1].

2.1.1. Central Vertigo

Cerebrovascular disease, internal carotid artery insufficiency and other reasons can lead to central vertigo, disease onset is characterized by continuous and asymptotic. Insufficient cerebral artery blood supply and impaired vascular endothelial cell function are mostly complications of central vertigo, which can easily reduce patients' quality of life [2].

2.1.2. Peripheral Vertigo

Peripheral vertigo is a kind of motor illusion caused by the dysfunction of spatial orientation and balance of the body. The causes of this symptom include cerebrovascular diseases and space-occupying lesions [3]. Clinically, peripheral vertigo is generally divided into two categories: one is true vertigo, in which patients have rotating sensation; the other is false vertigo, in which patients only have top-heavy and shaking sensation, but no rotating sensation [4]. Peripheral vertigo is characterized by easy recurrence, natural recovery within a certain period of time, rapid onset and short duration of onset, which seriously affects patients' normal work and daily life. The data showed that the incidence of peripheral vertigo was higher in our country, and the majority of vertigo was caused by peripheral vestibular diseases. In addition to clinical symptoms, patients also have anxiety, depression and other phenomena [3].

2.1.3. Mental Vertigo

The main clinical manifestation of psychogenic vertigo is dizziness, but patients cannot accurately describe the exact feeling of dizziness, and its onset is characterized by long-term persistence and recurrence. According to relevant data, patients of all ages are likely to suffer from this disease, mainly among adolescents, and the probability of female patients suffering from this disease is higher than that of male patients [5].

2.1.4. Cervical Vertigo

Cervical vertigo is caused by the abnormal anatomical structure or function of the cervical spine and the muscles and tendons attached to the vertebral body [6], which is commonly manifested as dizziness, nausea and vomiting, tinnitus and deafness. According to data statistics, the incidence of cervical vertigo has gradually increased in recent years, and the onset age of patients presents a trend of youth [7]. The etiology of most patients can be considered to be caused by cervical factors, and a small number of patients have organic lesions, so these diseases are often referred to as "cervical neurasthenia" in clinical practice [8].

2.2 Understanding of "Vertigo" in Traditional Chinese Medicine

The word "vertigo" first appeared in the "Three Causes and One Disease Prescription", which said that "the prescription called the head and face wind, namely vertigo is also" [9], it refers to a kind of disease syndrome with dizziness as the main manifestation. Chinese medical scientists in the past dynasties have had quite rich discussions on the etiology and pathogenesis of vertigo, as well as the classification of syndromes, but in summary, there are nothing more than "virtual" and "real" [10].

2.2.1. The Empirical

2.2.1.1. External Wind Heat Type

Wind is active, easy to attack the Yang position, and vertigo is the main manifestation of dizziness, seek for the same spirit, so wind evil is the easiest to cause vertigo. this type of syndrome is mainly caused by the evil of external wind and heat, which attacks the head and disturbs the Qingyang.

2.2.1.2. Phlegm and Drink Block

Zhang Zhongjing first proposed "vertigo due to phlegm", and believed that "phlegm drink" blocking the upper, middle and lower three focal points could cause vertigo [11]. Phlegm drinking stagnates in the sanjiao, blocking the qi machine, making the qingyang in the next, cloudy Yin in the upper, phlegm Mengqiao clear, and then cause vertigo.

2.2.1.3. The Hot and Angry Type

It is said in the "Criterion of Syndrome and Treatment" that "all those who are dizzy are made by fire" [12]. Irritable mood, anger on the disturbance; Or because of liver depression Qi stagnation, depression and fire, and fire inflammation, will disturb Qingqiao, cause vertigo.

2.2.1.4. Stasis Stasis Type

Yang Renzhai, a physician, once put forward that "if stasis is not good, all can get vertigo" [12]. If the mood is depressed, liver qi stagnation, Qi cannot blood, causing the blood stagnation, blocking the collages of the brain, or because of trauma, or long illness into the collages, so that the qi and blood block, without the spread of nourishing the brain, then vertigo.

2.2.2. Deficiency Syndrome

2.2.2.1. Qi and Blood Deficiency Type

"Neijing" says: "Lack of qi, the brain is dissatisfied, the ear is bitter, the head is bitter, the eye is dazzled" [11]. If the spleen and stomach are weak, the Qi and blood generation and deficiency source or other factors lead to the deficiency of Qi and blood, it cannot be added to the head and face Rongyang Qingqiao, Qingqiao loss of nourishing, then hair is vertigo.

2.2.2.2. Yin Deficiency and Yang Hyperactivity

Yin and Yang root each other, mutual restriction, if the lack of congenital endowment, or room labor too much, or too extreme emotion, damage the liver and kidney Yin blood, Yin deficiency day long, resulting in Yin does not collect Yang, wind Yang overactivity, Qi and blood reverse disorder, and see vertigo.

2.2.2.3. Kidney Sperm Deficiency Type

Kidney is the congenital root of the human body, the main accumulation of essence, essence and pulp, and the brain is the sea of pulp. If congenital deficiency or acquired loss is too much, the kidney essence can be depleted, the myeloid sea is empty, and the brain body is lost and vertigo can be seen [13].

To sum up, the etiology and pathogenesis of vertigo are complex, but no matter what they are, they can be analyzed according to the two-class syndrome differentiation of "virtual and solid": Generally speaking, the onset is sudden, the duration is short, the disease is serious, and the tongue and pulse are solid, which are mostly empirical. The attack is slow, the duration is long, the condition is light, the case of labor is easy to break or aggravate, the tongue and pulse deficiency, mostly belongs to the deficiency syndrome. Of course, in clinical practice, patients will also have mixed virtual and solid symptoms, as well as the above symptoms coexist, at this time, it is necessary to observe the pulse symptoms, so as to better treatment.

3. Treatment of Vertigo

3.1 Western Medical Treatment

The general treatment of vertigo is mostly the application of symptom-controlling drugs, such as betahistine and promethazine, etc. Clinical applications have found that the combination of drugs may improve the efficacy and reduce the adverse effects. Patients with vertigo have symptoms such as depression or anxiety because of dizziness, tinnitus, nausea, ataxia, etc. In this case, anticholinergic drugs can be applied to sedate, anti-anxiety and relax muscles.

3.1.1. Central Vertigo

Central vertigo has a low clinical incidence but a high risk. Those with intracranial tumor or occupancy can be treated with intravascular intervention and surgical treatment when there are indications for surgery. Vertigo due to intracranial infections such as brainstem encephalitis and cerebellar encephalitis should be treated with specific means such as antibiotics, antiviral or

antituberculosis after determining the cause [14]. If the vertigo is of pharmacogenic origin, discontinue the drug or reduce the dose as much as the patient's physical condition allows, following medical advice. Epileptic vertigo should be given antiepileptic treatment symptomatically.

3.1.2. Peripheral Vertigo

Benign episodic positional vertigo can be of primary or secondary origin. Treatment is mainly based on the repositioning of the calcium carbonate crystals back into the semicircular canal through the change of body position. In the case of Meniere's disease, diuretics and betahistine can be used, and if they are not effective, surgical treatment can be considered. Vestibular rehabilitation combined with pharmacological treatment is effective in improving the emotional disturbances and the degree of vertigo disability in vestibular peripheral vertigo and is more suitable for patients with vestibular neuritis[15]. By continuous stimulation of the vestibular system, it can effectively improve balance and reduce symptoms in patients with vertigo[16].

3.1.3. Psychogenic Vertigo

Relevant research studies have shown that there is a strong correlation between the degree of psychogenic vertigo and the degree of anxiety-depression disorder, and there is a linear trend of correlation[17]. Li Fuyong et al. suggested that mannitol plus dexamethasone could be used to treat psychogenic vertigo[18].

3.1.4. Cervicogenic Vertigo

Current treatments for cervicogenic vertigo include manipulation, surgery, and vestibular rehabilitation, etc. Reid et al. proposed Sustained Natural Apophyseal Glides and Maitland mobilization for cervicogenic vertigo[19]. Degenerative cervical spondylosis is the most common cause of cervicogenic vertigo[20] and one study showed that patients who underwent surgery had a better prognosis than those who received conservative treatment [21], but the surgery performed in that study was not specific to DCD, so it does not mean that surgery is the best option for DCD. For Whiplash associated disorders, physical therapy is the preferred treatment modality. For Bow hunter's syndrome, vertebral artery decompression and fusion of the vertebrae can be used, but it may affect the patient's postoperative physical activity, and vascular decompression can also be used for this type of disease[22].

3.1.5. Systemic Disease Vertigo

The disease is caused by other diseases, such as cardiovascular diseases, toxic diseases, hypertension, and blood disorders. It accounts for the highest percentage of cases in the emergency department[23]and should be treated by dealing with pre-existing diseases.

3.2 Chinese Medicine Treatment

The occurrence of vertigo should not be considered solely as a head lesion, but is closely related to the dysfunction of the liver, spleen, kidney and other internal organs, as well as to changes in emotion and will, so the key to treating vertigo is not to stop the dizziness, but to regulate the five internal organs and bring the qi, blood, yin and yang into balance[24]. Regarding the Chinese medical treatment of vertigo, scholars have researched from the perspective of different etiologies and pathogenesis.

3.2.1. Vertigo of the Wind-Yang Upward Disturbance Type

Vertigo (wind-yang upheaval) is most common in clinical practice, and treatment is based on pacifying the liver and subduing yang, clearing wind and quenching fire. Commonly used clinical remedies are Softening the Liver and Quenching the Wind, Tianma and Hooked Vine Drink, Antelope and Hooked Vine Soup, etc. Wu Haixiang [25] took Tianma and Hooked Vine Drink with addition and subtraction and the total effective rate reached 95%, while Yang[26] used Soft Liver and Restrain Wind Tang (Li Jinxue's experienced formula) from the liver and the total effective rate reached 92.8%. Zhao Dan[27] discussed the treatment of cervical vertigo of wind-yang upheaval type with main

evidence of blood stasis and yang resistance can be treated by using acupuncture with blood pricking and cupping to expel the stagnant blood so that the qi and blood can run normally.

3.2.2. Vertigo with Qi Deficiency and Qing-yang Failure to Rise

In clinical practice, vertigo (Qi deficiency and Yang failure to ascend) is considered to be a mixed type of deficiency and actuality. Therefore, treatment is usually based on tonifying deficiency and benefiting Qi, ascending Yang, and according to the patient's different constitution and co-morbidities, the treatment is complemented by removing phlegm and invigorating blood to resolve blood stasis. Zhao Zilong[28] summarized the treatment experience of Li Dongyuan's method of benefiting qi and elevating yang, and proposed two pairs of drugs commonly used clinically, Huang Qi and Ge Gen, and Bai Zhu and Ze Di. Ma Ling[29] proposed that Beneficial Qi, warming Yang and tonifying deficiency soup could improve cerebral blood rheology and coagulation function.

3.2.3. Vertigo with Qi and Blood Deficiency

The treatment of vertigo (weakness of qi and blood) is based on regulating and tonifying the qi and blood of the internal organs and nourishing the heart and spleen, which are more commonly used clinically, such as ten whole tonic soup and spleen-returning soup. Jing Ye and Li Hong[30] summarized the treatment experience of Mr. Li Yongnian, emphasizing that treatment should be based on supporting the spleen, treating more nourishment of qi and blood, strengthening the spleen and draining the liver, and commonly using Si Jun Zi Tang with addition and subtraction, and habitually using Ge Gen and Huang Qi. Mao Jing[31], on the basis of Western medical treatment, acupuncture Gong Sun acupoint, Si Shen Cong acupoint, Tong Li acupoint, Cervical Pinch Point, Tai Bai acupoint, Shen Men Xue, Bai Hui acupoint, Feng Chi acupoint, and the application of breathing tonic-diarrheal techniques, the total effective rate of treatment reached 93.33%.

3.2.4. Yin-deficiency-yang Hyperactivity Type Vertigo

The treatment of vertigo (yin deficiency and hyperactivity of yang) is based on the principle of tonifying deficiency and draining actuality and adjusting yin and yang, and is often used clinically to calm the liver and quench the wind, Zuo Gui Wan, and nourish yin, calm the liver, and fix dizziness. Li Fangfei and Chen Tizin et al[32] proposed to treat acute exacerbation of vertigo by combining Zhiyin, Ping Liver and Ding Dazzle Tang with acupuncture. Cao Yuancheng[33] proposed the treatment principle of nourishing yin and pacifying the liver, and chose Ziyin Dizziness Tang for treatment.

In recent years, Chinese medicine has achieved more excellent results in the treatment of vertigo, which has the advantages of less side effects, higher overall efficiency, and higher safety compared with purely Western medicine. While learning from it, the author also notes that the research on the treatment of vertigo in TCM is mostly based on the concept and prescription of a famous veteran TCM doctor or the doctor's personal clinical experience, and the small sample study is mainly not comprehensive enough. There are problems that the treatment effect is not guaranteed by the clinical level and experience of doctors, and there is a lack of continuous follow-up of patients after treatment.

4. Conclusion

With the understanding of vertigo symptoms in modern medicine, the research on the pathogenesis and treatment of vertigo is increasing. Although the classification method of vertigo has not been unified, human beings cannot fully explain the pathogenesis of all clinical vertigo. However, in this dilemma, TCM classifies vertigo by virtue of its own advantages and syndrome differentiation, which can not only relieve the symptoms of vertigo, but also improve the prognosis. Such TCM program has been recognized by more and more people. At present, the combined treatment of vertigo by TCM and Western medicine is still a field to be further studied and popularized in practice. This need to arouse the attention of clinical workers, but also need to continue to strengthen the basic knowledge of traditional Chinese medicine and clinical experience research.

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