

Theoretical Research

Theoretical discussion and application of tinnitus related theory based on the *Huangdi Neijing*

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Abstract

Objective: To explore the theory of tinnitus in *Huangdi Neijing* and identify effective traditional Chinese medicine treatments.**Methods:** A literature review and theoretical analysis of tinnitus were conducted to find better curative effect in clinical practice.**Results:** This study found that the *Huangdi Neijing* contains rich descriptions of the etiology, pathogenesis and treatment of tinnitus, and provides new ideas and methods for the syndrome differentiation and treatment of tinnitus. In addition, in the clinical treatment of tinnitus using acupuncture and moxibustion, HE's acupuncture is based on the *Huangdi Neijing*, and combined with the method of "Seven Skills and Five Methods" is applied to treat tinnitus, regulate meridian Qi and blood, and restore the circulation of meridian Qi, achieving good practical results.**Conclusions:** Based on the academic thoughts of *Huangdi Neijing* and HE's Tube Acupuncture, this study puts forward a dialectical method of "meridian-Zangfu-syndrome" combination. Clinical practice shows that it is helpful to improve the accuracy of tinnitus classification and the pertinence of treatment plan.**Keywords:** *Huangdi Neijing*, Tinnitus, Clinical application, HE's Tube Acupuncture

1 Introduction

Tinnitus is a condition in which abnormal sounds are perceived in the ear or intracranial area of patients without external sound source stimulation. It is divided into subjective and objective tinnitus. Subjective tinnitus is the most common. The etiology of tinnitus is complex. Western medicine believes that it is related to ear lesions, systemic diseases or mental factors. It is clinically common in patients with chronic otitis media, sudden hearing loss, noise-induced hearing loss and other diseases. There are a large number of patients with tinnitus, and its clinical prevalence is usually between 10% and 15%^[1]. Hearing loss, occupational noise exposure, otitis media, ototoxic drugs, anxiety and depression have been identified as the main risk factors for the development of tinnitus^[2]. Studies have found that about 80% of patients may persist when they

have tinnitus symptoms^[3]. When tinnitus becomes chronic, the symptoms will be more difficult to treat^[4]. Tinnitus patients often seek care across multiple departments, including otolaryngology, neurology, psychiatry, and traditional Chinese medicine, seeking repeated consultations. Modern medicine lacks a definitive treatment plan or medication recommendations. Most interventions provide limited benefit in altering the loudness of tinnitus^[5]. However, the adverse effects of tinnitus symptoms on patients are significant. The most common, serious, and fundamental impact is its psychological effect on patients. This effect makes patients' tinnitus more and more serious. The typical progression involves tinnitus increasingly affecting sleep, concentration, and mood, and these negative impacts escalate until they seriously interfere with daily life. Patients with the most severe psychological effects of tinnitus will feel that life is worse than death, experience extreme

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depression, and even harbor suicidal thoughts^[6]. Therefore, it is particularly important to explore the relevant theories of tinnitus and seek effective clinical treatment methods of traditional Chinese medicine.

As one of the ancient medical classics in China, the *Huangdi Neijing* has unique and profound theoretical insights into tinnitus, providing a foundational framework for later physicians. HE's Tube Acupuncture was founded by Mr. HE Huiwu, a famous modern acupuncture and moxibustion expert applies syndrome differentiation and treatment principles for tinnitus rooted in the theories of the *Huangdi Neijing*. In practice, a needle tube replaces manual manipulation, combined with the "Seven Skills and Five Methods", achieving remarkable clinical efficacy. Based on the theories of Zangfu organs and meridian, this paper explores the etiology and pathogenesis of tinnitus and the clinical application of acupuncture and moxibustion under the theoretical background of *Huangdi Neijing*. Through in-depth discussion on the theory of tinnitus in *Huangdi Neijing*, it is not only helpful to enrich the system of medical theoretical knowledge, but also possible to provide new ideas and methods for the diagnosis and treatment of tinnitus. It is expected that this research will enhance comprehensive understanding of the theoretical foundations of tinnitus in *Huangdi Neijing*, and provide valuable reference and guidance for future clinical practice.

2 The Understanding of Tinnitus in *Huangdi Neijing*

2.1 Relationship Between Ear and Five Zang Organs

The name of tinnitus was first seen in the *Huangdi Neijing*. *Suwen-Maijiepian* says: "The so-called tinnitus, Yang Qi makes all things rise and leap, so there is tinnitus." Tinnitus in Chinese medicine is also known as ear Liao Jiu, Ku Ming, ear Zhong Ming, ear Shu Ming, ear Xu Ming, etc. Physicians throughout history have extensively discussed tinnitus. The *Huangdi Neijing*, in particular, provides detailed descriptions and theoretical explorations of this condition. The *Huangdi Neijing* points that ear diseases, including tinnitus, are correlated with the dysfunction of the five Zang organs^[7].

(1) Ear and kidney. In the *Suwen·Shengqi Tongtian Lun*, it is pointed out that the kidney governs the bone and serves as the official of the ear. *Suwen·Yin Yang Yinxiang Dalun* states: "Among the Zang organs, it is the kidney that governs, among the orifices, it is the ear that corresponds." *Lingshu·Maidu* says: "Kidney Qi is connected to the ear,

and when the kidney is harmonious, one can perceive the five tones." The *Yixue Xinwu·Ear* points out: "Observing the dryness or moistness of the ears reveals the strength or weakness of the kidney. Therefore, the ear with rosy, moist lobes indicate vitality, and withered ears are difficult to treat." *Huangdi Neijing* believes that the ear is closely related to the kidney. Under the guidance of the theory of *Huangdi Neijing*, later generations of doctors also believe that the health of the kidney can be judged by observing the ears' condition.

(2) Ear and lung. *Nanjing·Fortieth Difficulty* says: "The kidney belongs to water in the north, water originates from Shen, Shen associated with gold in the west, and gold corresponds to the lung. The lung governs sound, hence enabling the ears to perceive sound." That is, because the lung governs Qi, the Qi of the whole body runs through the ear, and gold can produce water, so it can make the ear listen. When lung Qi becomes obstructed, ear disorders may arise. In clinical practice, patients with symptoms such as tinnitus, ear distension and even deafness are often encountered, due to the fact that the wind pathogen invades the lung and causes the lung Qi not to be purged.

(3) Ear and heart. *Huangdi Neijing* believes that the kidney in the orifice is the ear, and the heart opens to the ear. *Lingshu·Kouwén* says: "The ears are where the ancestral meridians converge." The heart governs the blood vessels of the whole body, and dominates the Zangfu organs. At the same time, the heart connects to the ears *via* its meridian. The hand-Taiyang small intestine meridian also traverses the ear, reinforcing the heart's role as the material foundation for auditory physiology. In addition, the *Huangdi Neijing* divides the orifices of the human body into nine orifices, seven orifices, and five orifices, and believes that the heart is the guest of the ear, which guides the theory of "the ear as the orifice of the heart". Clinically, heart function can be assessed by observing the ears^[8-9].

(4) Ear and spleen. *Suwen·Yin Yang Yinxiang Dalun* says: "Qingyang is out of the upper orifices, the stomach is the sea, the nine orifices are nourished by the Qi of water." It indicates that the spleen is closely related to the nine orifices, and the spleen transports the essence of the water to nourish the nine orifices.

(5) Ear and liver. *Suwen·Five Zang Generating Chapter 10* says: "Dizziness, blurred vision, and deafness arise from excess below and deficiency above, reflecting disorders of the foot-Shaoyang and Jueyin meridians, which may penetrate the liver." As the liver and kidney share a common source of essence and blood, the liver's

role in storing blood and regulating Qi ensures that Qi and blood ascend to nourish the ears. Thus, the ears are closely tied to liver function.

2.2 The Etiology and Pathogenesis of Tinnitus

According to the theory of *Huangdi Neijing*, the etiology of tinnitus can be divided into external causes and internal cause. External causes mainly refer to the invasion of pathogenic factors, such as wind, cold and damp-heat, which lead to the obstruction of meridians and collaterals, disrupting the flow of Qi and blood, thus causing tinnitus. Internal causes relate to the internal factors of the human body, such as emotional distress or deficiency of the liver and kidney, *etc.*, leading to meridian disorders, disharmony between Qi and blood, which can also cause tinnitus. Tinnitus should first be differentiated as deficiency and excess. Excess-type tinnitus is characterized by loud and coarse sounds, and is commonly seen in younger individuals with robust constitutions, and those consuming excessive alcohol or rich, greasy foods, or individuals with phlegm-fire accumulation. Deficiency-type tinnitus, by contrast, manifests as faint, thin sounds and typically occurs in those with weak constitutions or chronic fatigue. In the location of viscera disease, tinnitus is most closely related to liver and kidney^[10–11]. The excess syndrome is mostly due to emotional failure, liver and gallbladder fire upside down, or invasion of external wind pathogens that block the clear orifices. The deficiency syndrome is mostly attributed to kidney deficiency and Qi weakness, and failure of essence to nourish the ears.

2.3 Zangfu and Meridian Syndrome Differentiation for Tinnitus

The differentiation of meridians and collaterals is often neglected in clinical practice. Ancient doctors typically prioritized meridian-based diagnosis. HE's Tube Acupuncture respects the classic theoretical guidance. The treatment principle for tinnitus is "syndrome differentiation and meridian-based acupoint selection". Guided by holistic principles, it combines Zangfu organs differentiation and meridian differentiation through observation, auscultation, inquiry, and palpation. By combining Zangfu organs syndrome differentiation with meridian syndrome differentiation, acupoint prescriptions are formulated based on relevant meridians. The primary focus is on meridian differentiation, followed by identifying deficiency/excess patterns and Zangfu organs involvement according to the etiology and pathogenesis. Corresponding acupoints are selected, and appropriate needling or moxibustion techniques are applied to tonify deficiency and drain excess. According to the records of *Huangdi Neijing*, the

six Yang meridians in the twelve meridians can directly pass through the ear, and the six Yin meridians can also be indirectly connected to the ear through the collateral relationship^[12]. Through meridian circulation, the Qi and blood are stored to nourish the whole orifices, so that the hearing is clear and the five tones can be distinguished.

(1) Shaoyang Meridian Qi Dysregulation: The gallbladder meridian of foot-Shaoyang starts from the acute canthus of the eye and goes around the back of the ear along the temporal part, in which the branches of the "back of the lower ear" are directly connected to the ear. The triple energizer meridian of hand-Shaoyang separates the postauricular branch from the supraclavicular fossa, and passes through the upper corner of the ear to the acute canthus of the eye, forming the trend of "entering the ear from the behind and exits in front". These dual pathways make the Shaoyang meridian become the core channel to regulate the movement of Qi and blood in the ear. The triple energizer meridian, as the hub of the ascending and descending of Qi movement, disrupts the ascent of clear Yang and descent of turbid Yin, causing tinnitus and ear fullness. Which can lead to the symptoms of tinnitus and ear distension. When the gallbladder meridian is blocked, the stagnated heat of the gallbladder meridian can disturb the ear orifices along the meridian. Professor HE believes that there is a synergistic effect between hepatobiliary disorders and Shaoyang meridian lesions. Impaired gallbladder discharge may lead to bile reflux, which, combined with stagnant heat in meridian Qi, forms the "gallbladder fire flaring upward" syndrome. This pattern manifests clinically as sudden-onset tinnitus characterized by loud and coarse auditory sensations. The liver meridian and the gallbladder meridian interact with each other through their collateral relationship, forming the tinnitus characteristics of "simultaneous liver-gallbladder disorder". In clinical palpation, such patients often exhibit palpable tenderness along the pathways of Sanjiao meridian or the gallbladder meridian, such as Ermen (TE21), Tinghui (GB2), Zhongzhu (TE3), Waiguan (TE5), Yanglingquan (GB34) and other acupoints.

(2) Yangming meridian Qi and blood deficiency: Hand and foot Yangming meridian as an important channel of Qi and blood distribution, its Qi running directly affects the state of ear. The stomach meridian of foot Yangming ascends anterior to the ear, reaches the forehead and skull. The collateral branch of the large intestine meridian of hand Yangming enters the ear and converges with the Zongmai. In Zangfu theory, the large intestine mainly transmits dregs, and the stomach mainly receives water

and grain. The two cooperate to complete the biochemical transmission of Qi and blood. When the Yangming meridian Qi movement is out of balance, it can not only appear the empirical syndrome of Qi and blood stagnation, but also the deficiency syndrome of Qi and blood deficiency. This dynamic imbalance interferes with the operation of Qi and blood in the ear through meridian conduction, forming the pathological basis of tinnitus. Clinically, tinnitus is often accompanied by gastrointestinal symptoms such as abdominal distension and irregular stool.

(3) Qi counterflow in the Taiyang meridians: The small intestine meridian of hand Taiyang has a branch that ascends from the Quepen, follows the neck, passes over the cheek, reaches the outer canthus of the eye, and then enters the ear. The bladder meridian of foot Taiyang has a branch descending from the vertex to the superior auricular region. While these branches do not directly enter the ear, they form indirect pathways for Qi and blood distribution to the ear through meridian interconnections. Disordered Taiyang meridian Qi disrupts these pathways, contributing to ear-related pathologies. The core pathogenesis of tinnitus caused by counterflow or disorder of Qi in the Taiyang meridians lies in the dysfunction of water-fluid metabolism. For example, the invasion of exogenous wind and cold into the Taiyang meridian leads to the failure of the lung to disperse and descend, which in turn affects the bladder gasification function. The evil of water and dampness invades the ear orifices along the meridian. The method of dredging Yang and promoting diuresis can effectively improve the operation state of the Taiyang meridian and restore the normal function of the ear orifices. In addition, Professor HE believes that tinnitus with deficiency syndrome is also closely related to the kidney meridian and the Taiyang meridian. The Dumai, governing all Yang meridians, interacts with the bladder (Taiyang) and kidney (Shaoyin) meridians^[13]. The governor vessel mainly travels on the back of the human body, and the bladder Fu of the foot-Taiyang meridian and the kidney form an interior-exterior pair. When the kidney meridian's essence and Qi are deficient, water metabolism becomes impaired, leading to deficiency type tinnitus resembling cicada chirping due to insufficient nourishment of the ear orifices. Clinically, this manifests as palpable tenderness along the meridian pathways at acupoints such as Tinggong (SI19) and Taixi (KI3).

3 The Theoretical Guidance of *Huangdi Neijing* on Tinnitus Treatment

In clinical practice, the author often uses HE's Tube Acupuncture to treat tinnitus, which has the advantages

of painless needle insertion, comfortable needle feeling, and no retention of acupuncture^[14]. Because the *Huangdi Neijing* has provided us with a complete meridian circulation, therefore in clinical practice, Dr. HE believes the selection of tinnitus acupoints is mainly based on local and meridian acupoints, mainly including: Sanyinjiao (SP6), Tinggong (SI19), Tinghui (GB2), Ermen (TE21), Fulu (KI7), Houxi (SI3), Zhongzhu (TE3), Yemen (TE2), Hegu (LI4), Quchi (LI11), Yanglingquan (GB34), Fengchi (GB20) and so on. Clinical practice has a good effect. For deficiency syndrome tinnitus, *Huangdi Neijing* has the saying of "at the age of fifty, the body becomes heavy, and the senses of hearing and vision decline" "depletion of essence leads to deafness" "insufficiency of the sea of marrow causes dizziness and tinnitus". Tinnitus due to kidney deficiency is treated by nourishing Yin and suppressing Yang, in which nourishing Yin by tonifying Sanyinjiao (SP6), nourishing golden water by tonifying Fulu (KI7), treating Qi disorder in head by Tianzhu (BL10) and Dazhu (BL11), and reducing fire by purging Houxi (SI3). For empirical tinnitus, the *Huangdi Neijing* says: "When liver disease causes rebellious Qi, it leads to deafness with impaired hearing, a reversal of Shaoyang channel Qi results in sudden deafness." Tinnitus due to water failing to nourish wood and wind-fire disturbing the upper Jiao is characterized by symptoms such as head distension, dizziness, headache, tinnitus, visual blurring, irritability, bitter taste in the mouth, and dry throat, etc. The treatment principle focuses on draining liver-gallbladder fire, Quchi (LI11), Hegu (LI4), Waiguan (TE5) clear the fire of upper Jiao, Tinghui (GB2) and Yifeng (TE17) purge gallbladder fire and triple energizer heat from the ear. Fengchi (GB20) inhibit the fire of gallbladder, Yanglingquan (GB34) and Taichong (LR3) subdue the fire of liver and gallbladder.

4 Examples of Classic Medical Records

Case 1: TANG, female, 63 years old.

Complaint: Tinnitus for more than ten years. Medical history: Tinnitus resembling cicada sounds, accompanied by dizziness, hearing loss, insomnia, upset, backache and leg weakness. Tongue: Red with thin coating. Pulse: Thready and rapid. TCM diagnosis: Tinnitus. Pattern differentiation: Liver-kidney Yin deficiency with flaring deficient fire. Treatment principle: Nourishing Yin and suppressing Yang.

Acupuncture points: Fulu (KI7), Sanyinjiao (SP6) (tonifying), Tianzhu (BL10), Dazhu (BL11) (neutral supplementation and drainage), Houxi (SI3), Tinggong (SI19), Tinghui (GB2), Yemen (TE2) (reducing).

Treatment course: After five times acupuncture sessions, tinnitus diminished, and insomnia and irritability improved, symptoms resolved completely. The patient was cured after a course of treatment (ten times).

Case 2: LIANG, male, 36 years old.

Complaint: Sudden hearing loss for 5 days. Present medical history: Following an argument with a neighbor, sudden hearing loss occurred. After vasodilator treatment at an otorhinolaryngology department, hearing partially recovered, but tinnitus persisted, accompanied by dizziness, bitter taste in the mouth, chest tightness, and dry stools. Tongue: Yellow coating. Face: Fushed. Pulse: Wiry and rapid. TCM diagnosis: Tinnitus. Pattern differentiation: Liver-gallbladder stagnant heat with flaring wind-fire. Treatment principle: Clearing liver and gallbladder heat, dispelling wind and descending counterflow.

Acupuncture points: Hegu (LI4), Waiguan (TE5), Tinghui (GB2), Yifeng (TE17), Fengchi (GB20), Yanglingquan (GB34), Taichong (LR3) (reducing method).

Treatment course: After one time of acupuncture, the tinnitus lessened immediately with improved mental clarity. One needle every other day, five times after the needle tinnitus resolved completely.

Annotation: Case 1 is liver and kidney Yin deficiency, deficiency fire disturbance, treatment with nourishing Yin and suppressing Yang. Tinggong (SI19) and Houxi (SI3) (reducing method) were selected as the hand Taiyang meridian “enters the ear”. Tinghui (GB2) and Yemen (TE2) (reducing method) were chosen as the hand/foot Shaoyang meridians “travel behind the ear into the ear and exit in front of the ear”, aiming to nourish Yin, clear heat, and open orifices. Fulu (KI7), Sanyinjiao (SP6) with tonifying method, nourish liver and kidney Yin deficiency. Dazhu (BL11) is the intersection point of hand-foot Taiyang meridian, and Tianzhu (BL10) is the bladder meridian of foot Taiyang meridian. These two acupoints were needled with reinforcing and reducing, clearing head orifices and dredging meridians. Tinnitus relieved after five times of acupuncture, and recovered after ten times. Case 2 is liver and gallbladder stagnation heat, wind and fire disturbance. The treatment is to clear the liver and gallbladder, soothe the wind and descend counterflow. Waiguan (TE5) is the triple energizer meridian point, linking Yangwei meridian. Fengchi (GB20) is the intersection point of triple energizer meridian, gallbladder meridian, Yangwei and Yangqiao.

Hegu (LI4) is the original point of hand Yangming large intestine meridian. The combination of the three points can disperse wind and clear heat, and dredge orifices and ears. Yifeng (TE17) belongs to the triple energizer meridian, which mainly regulates the triple energizer Qi. Tinghui (GB2) and Yanglingquan (GB34) belong to gallbladder meridian, soothing liver and gallbladder Qi. Taichong (LR3) belongs to the liver meridian, clearing heat and purging fire, calming the liver and suppressing Yang. The combination of the four acupoints can clear the liver and gallbladder, open the orifices and benefit the brain. All the above acupoints were treated with reducing method. Tinnitus improved after one time of acupuncture, and tinnitus disappeared after five times.

5 Conclusions

The occurrence of tinnitus is categorized into excess and deficiency patterns. Excess patterns are mostly caused by the upward reversal of liver-gallbladder wind-fire, that obstructs Qingyang, where the liver-gallbladder ascend along the meridians to disturb the ear orifice, or by wind pathogen invasion leading to reversed meridian Qi movement and fluid metabolism disorders that damage the ear. Deficiency patterns mainly result from deficiency of kidney essence or deficiency of Qi and blood, which leads to tinnitus caused by dystrophy of ear orifice. Through the discussion of the theory of tinnitus in *Huangdi Neijing*, and integrating HE's Tube Acupuncture diagnostic principles of “meridian-Zangfu-organ-syndrome” correlation, this study proposes a refined diagnostic approach: First determining the affected meridian, then combining visceral theory for more accurate pattern differentiation. It challenges the stereotypical approach of automatically tonifying the kidney for tinnitus treatment. By incorporating meridian palpation during therapy to identify positive reactive points based on precise pattern differentiation, better clinical efficacy can be achieved in practice.

Ethical Approval

Not applicable.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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