

Based on the Theory of “Liver Main Drainage,” the Treatment of Intractable Arrhythmias from the Liver is Discussed (with an Example of the Case)

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Abstract: *This paper aims to systematically explore the theoretical basis and clinical practice of treating refractory arrhythmias from the liver based on the theory of “liver main drainage”. Intractable arrhythmias present a significant clinical challenge, and modern Western medicine treatment faces risks such as unstable efficacy and “arrhythmia-inducing” effects, suggesting the limitations of a single “heart treatment” approach. Traditional Chinese medicine posits that the key pathogenesis of this condition lies in impaired liver drainage, progressing through the three-stage transmission pattern of “liver stagnation → transformation into pathogenic factors (fire, phlegm, stasis) → deficiency.” This ultimately disturbs mental functions and obstructs the heart meridian. Therefore, treatment should adhere to the principle of “regulating the liver to treat the heart,” with the core guiding ideology being “loosening its qi and blood, making it orderly.” Clinical phases such as liver sparseness, liver cleansing, and liver softening are employed to restore the liver’s drainage function and stabilize the heart vein. The case study confirms the efficacy and scientific basis of treating this condition from a liver-centered perspective, offering a novel approach with traditional Chinese medicine characteristics to resolve the treatment dilemma of refractory arrhythmias.*

Keywords: Liver drainage function, Refractory arrhythmias, Theoretical discussion, Case analysis.

1. Introduction

Refractory arrhythmia, a clinical concept in modern medicine, specifically refers to conditions where cardiac rhythm and rate become abnormal and difficult to control. Based on clinical manifestations, it aligns with Traditional Chinese Medicine categories such as “palpitations” and “dizzying anxiety” [1]. Its clinical manifestations are diverse: mild cases may present with palpitations, chest tightness, dizziness, and fatigue, while severe cases can lead to syncope or even sudden death [2]. Among these, the type that recurs despite standardized treatment and remains difficult to control is termed refractory arrhythmia, representing a significant challenge in clinical management. Modern medicine attributes the onset of this condition to abnormalities in cardiac impulse generation and conduction pathways, with underlying pathological mechanisms involving multifaceted remodeling of cardiac structure, electrophysiology, and autonomic nervous system function [3]. Currently, in non-pharmacological interventions, methods such as radiofrequency ablation (RFA) have become the preferred clinical approach for curing certain arrhythmias, demonstrating favorable efficacy. However, for refractory arrhythmias unsuitable for RFA, recurrent after RFA, or primarily involving functional disturbances, long-term drug therapy remains crucial [4]. Yet such medications often present a double-edged sword dilemma, characterized by suboptimal efficacy, high recurrence rates upon discontinuation, potential induction of more severe arrhythmias, and latent organ toxicity [5].

Confronting the clinical challenge of refractory arrhythmias, Traditional Chinese Medicine (TCM), grounded in its “holistic concept” and “interrelationship of the five zang organs” theory, proposes a therapeutic approach centered on the liver. TCM posits that the core pathogenesis lies in impaired liver qi regulation, leading to pathological products such as qi stagnation, fire accumulation, phlegm, and blood

stasis [6]. These disturb the heart spirit and obstruct the heart meridians, progressing through a three-stage pattern of “liver depression → transformation into pathogenic factors → deficiency damage.” The liver and heart belong to the wood and fire elements respectively, sharing a mother-child relationship of mutual generation (“wood generates fire”). Smooth liver qi facilitates unobstructed heart meridian flow, while abundant liver blood nourishes the heart spirit. Contemporary TCM builds upon classical theories, advocating adherence to the principle of “regulating the liver to treat the heart,” guided by the concept of “regulating qi and blood to restore smooth flow” [7]. This involves applying methods such as soothing the liver and regulating qi, clearing liver fire, and nourishing blood to soften the liver in a phased manner [8]. Clinical case studies confirm that this dynamic pattern differentiation approach of regulating the liver to calm the heart demonstrates significant advantages in improving patient symptoms and objective indicators. This paper systematically summarizes TCM experience in treating refractory arrhythmias based on the theory of “liver governs free flow” through four aspects: theoretical foundation, pathogenesis and progression, phased strategies, and typical cases.

2. Interpretation of the Theory “The Liver Governs the Free Flow of Qi”

“Liver governs free flow” is a fundamental concept within Traditional Chinese Medicine’s Zang-Xiang theory and represents one of the liver’s physiological functions. Its profound and extensive implications reveal the liver’s role in maintaining the dynamic equilibrium of human life activities. The term “dispersion” represents a comprehensive summary of the liver’s physiological characteristics, including its wood-like nature, ascending movement, and smooth functioning. Its core mechanism lies in regulating qi dynamics — maintaining the unimpeded and orderly flow of qi

throughout the body. This function serves as a pivotal hub for regulating mental and emotional states, coordinating the spleen and stomach's transformation and transportation, and facilitating the distribution of blood and body fluids. From a physiological perspective, the liver corresponds to wood and aligns with the spring energy of growth. It thrives on smooth flow and resists stagnation. When the liver's function operates normally, the body's qi circulation becomes harmonious, qi and blood balance, meridians remain unobstructed, and the functional activities of organs and viscera are maintained in a stable and orderly state [9].

2.1 Harmonizing Qi Mechanism

Qi is the fundamental substance sustaining human life activities. Under physiological conditions, harmonious qi movement with orderly ascending and descending ensures coordinated organ function and normal life processes. The normal circulation of qi is essential for its functions of propulsion, warming, and defense [10]. Imbalance in qi circulation leads to pathological changes such as qi stagnation and blood stasis, internal retention of dampness and fluid, and the transformation of stagnation into fire. As stated in Danxi's Heart Method: "Wherever there is stagnation, all diseases arise." Among the five zang organs, the liver is most closely associated with harmonious qi movement. Governing the free flow of qi, the liver plays a pivotal role in regulating the ascent, descent, entry, and exit of qi throughout the body. When liver qi fails to flow freely, qi stagnation occurs, manifesting as distension and pain in the chest and ribs. If liver qi rebels and invades the stomach, epigastric fullness and belching arise. When it disturbs the heart spirit, dizziness and palpitations ensue. Therefore, regulating the liver to restore its free flow is fundamental to harmonizing qi movement.

2.2 Regulating Emotions

As the organ governing free flow, the liver serves as the pivotal point for emotional regulation, working in concert with the heart—which governs mental clarity—to maintain emotional equilibrium. When liver qi flows smoothly, emotions remain balanced and the mind finds peace. However, if liver qi fails to flow freely, whether due to stagnation or transformation into fire, it can directly disturb the mind and heart vessels, triggering or exacerbating palpitations. Modern research indicates that refractory arrhythmias (e.g., ventricular premature beats) frequently coexist with anxiety and depression. Moreover, impaired liver qi regulation is deeply associated with neuroendocrine dysregulation (e.g., HPA axis abnormalities), forming the foundation for emotion-induced arrhythmias [11]. Therefore, treating from the liver perspective—regulating liver qi and clearing liver fire—is key to calming the mind and stabilizing heart rhythm.

2.3 Regulating Qi and Blood Circulation

Traditional Chinese medicine posits that the liver governs both the dispersing function and the storage of blood, working synergistically to regulate blood circulation and distribution. When liver qi flows smoothly, qi circulation is unimpeded and blood flow is orderly. Conversely, impaired liver dispersing function leads to qi stagnation, obstructing blood flow and potentially causing blood stasis. This mechanism is closely

related to arrhythmias: qi stagnation and blood stasis obstruct the heart vessels, triggering or exacerbating palpitations and anxiety. Qing Dynasty physicians also noted that "When liver qi flows freely, heart qi harmonizes; when liver qi stagnates, heart qi falters," emphasizing the vital role of liver regulation in maintaining unobstructed heart meridians and stable cardiac rhythm [12].

2.4 Promoting Spleen and Stomach Transformation

The liver governs the free flow of qi throughout the body, coordinating and promoting the transport and transformation functions of the spleen and stomach. When liver qi fails to regulate properly, "wood overcomes earth", causing liver qi to invade the spleen and stomach. This leads to impaired spleen function, failure to transform fluids, and the accumulation of dampness into phlegm. This pathological chain of "liver depression overpowering the spleen, spleen deficiency generating phlegm" transforms phlegm turbidity into a tangible pathogenic factor. It obstructs qi movement, obscures the heart orifices, and severely disrupts the heart spirit and heart vessels. This constitutes a key pathogenic mechanism for recurrent, intractable arrhythmias that are difficult to cure. Therefore, the clinical approach of "soothing the liver and strengthening the spleen" aims to sever the source of phlegm production, fundamentally stabilizing arrhythmias. [13].

3. Physiological Connection Between Liver and Heart: "Liver Stores Blood, Heart Circulates It" - Wood-Fire Mutual Generation, Parent-Child Interdependence

The liver and heart, belonging to the wood and fire elements respectively, share a generative relationship where "wood generates fire." The liver is the mother organ, and the heart is the child organ. Physiologically, abundant liver blood nourishes heart blood, and smooth liver qi facilitates unobstructed heart pulse circulation. Pathologically, impaired liver qi regulation can directly disturb the heart spirit and obstruct the heart pulse. The two organs are intricately linked through multiple levels—qi dynamics, blood circulation, and mental functions—jointly sustaining the heart's normal rhythmic contractions and functional activities [14]. Thus, a thorough analysis of the physiological interactions and pathological transmission between liver and heart forms the theoretical foundation for treating refractory arrhythmias through liver-focused therapy.

3.1 The Authority of Free Flow: Qi Circulation and the Regulation of Heart Pulse Rhythm

The smooth flow of blood vessels in the heart depends on the liver's regulation of qi circulation throughout the body. When liver qi flows smoothly, qi circulation is unimpeded, qi and blood harmonize, and the heart vessels function normally, maintaining regular heart rhythms. If liver qi fails to regulate, qi circulation becomes disordered, disturbing the heart vessels [15]. Liver qi stagnation leads to qi stagnation and blood stasis, obstructing the heart meridian. Clinically, this often manifests as palpitations accompanied by chest tightness and costal distension. Conversely, excessive liver fire or hyperactive liver yang may cause upward-rushing qi and fire to impact the

heart, triggering agitated heart meridians. This often manifests as tachycardia, frequent premature beats, and other rapid arrhythmias. Therefore, regulating liver qi is essential for restoring heart meridian flow and stabilizing irregular heart rhythms.

3.2 Emotional Regulation: The Harmony Between the General's Strategy and the Sovereign's Spirit

The heart is the “sovereign organ,” governing mental consciousness and cognitive functions; the liver is the “general organ,” responsible for the free flow and regulation of emotions. Together, they maintain emotional stability — one as the ruler of mental clarity, the other as the pivot of emotional regulation. When emotions become excessive, the liver is first affected, subsequently impacting the heart. Liver qi stagnation transforms into fire, and this internal heat disturbs the heart spirit, leading to restlessness, insomnia, and palpitations. Modern medicine confirms that prolonged psychological stress can induce or exacerbate arrhythmias by affecting autonomic nervous function [16]. Therefore, in treating refractory palpitations related to emotional disturbances, calming, clearing, and regulating the liver to stabilize the mind is crucial for interrupting disease progression.

3.3 The Root of Vitality: The Principle of Liver Blood Abundance and Nourishment of the Mind

The liver stores blood, regulating its volume and distribution; the heart governs blood circulation, serving as the driving force for its movement. Sufficient liver blood constitutes one of the material foundations for the generation of heart blood. The essence and blood stored in the liver can be transported via meridians to nourish the heart, embodying the principle of “liver generating heart.” If liver blood becomes deficient, the liver fails to nourish itself, loses its ability to regulate, and simultaneously fails to supply sufficient blood to the heart. This leads to concurrent malnutrition of the heart vessels and loss of mental stability, clinically manifesting as palpitations, anxiety, forgetfulness, insomnia, and vivid dreams [17]. Therefore, for arrhythmias caused by yin and blood deficiency, the treatment principle should combine nourishing blood and soothing the liver with replenishing yin and calming the heart. This achieves the effect of nourishing water to support wood, simultaneously supplementing both mother and child.

4. Refractory Arrhythmias: Three Stages of Liver Qi Pathology and Cardiac Pulse Transformation

The onset and progression of refractory arrhythmias originate from impaired liver qi regulation, evolving through complex stages involving qi stagnation, blood stasis, transition from excess to deficiency, and concomitant pattern changes. Examining the pathological evolution reveals three primary phases:

4.1 Initial Trigger: Liver Qi Stagnation and Initial Disturbance of the Heart Meridian

This stage is triggered by factors such as emotional frustration

and psychological stress. The core pathogenesis involves impaired liver qi regulation leading to qi stagnation. Impaired liver qi function obstructs qi circulation, directly affecting the flow of qi and blood in the heart vessels. This restricts heart qi, as described by the principle: “When qi stagnates, heart qi becomes deficient.” Clinically, this phase is commonly observed in the early stages of disease, primarily manifesting as functional, occasional palpitations, chest tightness, and frequent sighing, often fluctuating with emotional changes. The pathological focus during this period lies in the Qi aspect, characterized by excess patterns. Timely regulation of liver Qi and prevention of disease progression to deeper stages are crucial.

4.2 Mid-stage Progression: Prolonged Stagnation Generates Pathogenic Factors, Damaging the Heart Substance

If initial liver stagnation persists unresolved, the stagnant qi will travel along the meridians inward, transforming into pathological products like fire, phlegm, or stasis. This rapidly shifts the pathogenesis to a mixed pattern of deficiency and excess, directly damaging the heart's structure and function. This triggers electro-physiological or organic remodeling of the heart. Specifically: Prolonged qi stagnation generates internal fire, manifesting as excessive liver fire or hyperactive liver yang. This upward-rushing heat, sometimes accompanied by wind-yang agitation, violently disturbs the heart meridian, resulting in rapid and persistent arrhythmias like tachycardia and frequent premature beats. Concurrently, liver stagnation invades the spleen, impairing its transporting and transforming functions to accumulate dampness and generate phlegm; qi stagnation impedes blood circulation, leading to blood stasis. Phlegm-turbidity and blood stasis intertwine, obstructing the heart meridians. This transforms the arrhythmia into a stubborn, difficult-to-treat condition, often accompanied by chest pain, a dark purple tongue, and a greasy coating—manifestations of heart meridian obstruction [18].

4.3 Late-Stage Manifestation: Depletion of Yin and Blood, with Both Heart and Liver Deficiency

Prolonged illness, or persistent depletion of yin blood due to fire pathogens or chronic disease, shifts the pathogenesis from excess to deficiency, entering a stage of deficiency syndrome characterized by liver blood deficiency and heart blood insufficiency. When the liver fails to store blood, the heart loses its nourishment; the heart vessels become empty and deficient, manifesting as palpitations and anxiety. Clinically, this phase is commonly observed in chronically ill or elderly, frail individuals, presenting as bradyarrhythmia or arrhythmia accompanied by pronounced signs of qi, blood, and yin deficiency (e.g., intermittent pulse, dizziness, fatigue). Treatment should focus on nourishing blood, soothing the liver, replenishing yin, and calming the heart to achieve simultaneous supplementation of both mother and child organs.

In summary, the pathological progression of refractory arrhythmias treated from a liver-centered perspective essentially revolves around liver qi dysfunction as the pivotal mechanism. This drives the condition from functional qi

disturbance to a mixed deficiency-excess stage, ultimately culminating in deficiencies of qi, blood, yin, and yang. Comprehensively grasping this three-stage progression — “Liver Qi Stagnation → Pathogenic Transformation → Deficiency Damage” — provides crucial guidance for implementing phased differential diagnosis and treatment, regulating the liver to treat the heart, and achieving therapeutic goals of “preventing disease before it occurs and preventing progression once it has developed.”

5. Liver Regulation as the Foundation: A Phased Strategy for Treating Refractory Arrhythmias

The core of treating refractory arrhythmias from a liver-centered perspective lies in regulating the liver to treat the heart—that is, restoring the liver’s function of promoting free flow as the pivotal mechanism to stabilize cardiac rhythm. Based on the three-stage pattern of liver qi pathogenicity and cardiac pulse transformation, the therapeutic principles must incorporate disperse, clear, soften, and tonify to achieve precise, stage-specific treatment [19].

5.1 Initial Treatment: Regulating Liver Qi to Promote Smooth Flow of Cardiac Qi

For the initial stage characterized by liver qi stagnation and initial disturbance of the heart pulse due to emotional frustration, the therapeutic principle emphasizes soothing the liver and resolving depression, promoting qi circulation, and unblocking the pulse. Formulas primarily regulate liver qi, using foundational prescriptions like Chaihu Shugan San (Bupleurum Liver-Regulating Powder) or Xiaoyao San (Free and Easy Wanderer Powder), combined with qi-regulating herbs such as Curcuma and Cyperus. This restores smooth qi flow and unblocks heart qi, aiming to halt disease progression during the functional disorder stage.

5.2 Mid-Stage Treatment: Clearing Liver Heat, Resolving Phlegm, and Expelling Stasis to Ward Off Pathogenic Factors

For the mid-stage pattern of mixed deficiency-excess syndrome where prolonged stagnation generates fire, phlegm, and stasis, damaging the heart substance, treatment must rapidly clear pathological products to halt progression. If liver fire is hyperactive, Longdan Xiegan Tang is used to clear and calm the liver [20]. For liver yang rising, use Liver-Calming and Wind-Suppressing Decoction to heavily anchor and subdue yang, thereby calming wind and stopping palpitations. For phlegm and stasis intertwined, combine Warm Gallbladder Decoction with Blood Residence Stasis-Expelling Decoction to resolve phlegm, expel stasis, promote qi circulation, and unblock collaterals. This dissolves pathogenic factors obstructing the heart meridian, preventing arrhythmias from progressing into more stubborn organic changes.

5.3 Late-Stage Treatment: Nourishing Yin, Tonifying Blood, and Softening the Liver—Simultaneously Reinforcing the Heart and Liver to Consolidate the Foundation

For late-stage deficiency patterns resulting from prolonged illness depleting qi and blood—manifesting as yin-blood exhaustion and concurrent heart-liver deficiency—treatment must prioritize tonifying deficiency. The focus is on nourishing yin and blood, softening the liver, and calming the spirit. Formulas such as Guipi Tang, Suanzhaoren Tang, and Tianwang Buxin Dan are modified to replenish yin and blood in the heart and liver. Heavy doses of Bai Shao (soothing the liver) and Goji berries (nourishing essence and blood) are added to achieve simultaneous nourishment of both mother and child organs. This addresses the root cause of deficient nourishment to the heart vessels and restlessness of the spirit, thereby restoring regular heart rhythm and achieving stable internal equilibrium.

6. Clinical Case Example

Liu XX, male, 54 years old, presented at the clinic of Professor Wu Yongchang at the Famous Physician Clinic of the Second Affiliated Hospital of Shaanxi University of Traditional Chinese Medicine. The patient had a history of hypertension and had been taking antihypertensive medications long-term to control blood pressure. He sought treatment on August 25, 2025, complaining of “recurrent palpitations, chest tightness accompanied by dizziness for six months, with symptoms worsening over the past week.” Six months prior, work-related stress triggered paroxysmal palpitations and chest tightness. Multiple Holter monitor recordings at another hospital revealed frequent ventricular premature beats, some in couplets or triplets. Long-term antiarrhythmic medications like propafenone proved ineffective, leading to a diagnosis of “refractory arrhythmia.” Current presentation: Paroxysmal palpitations, chest tightness and discomfort, dizziness and head fullness, anxiety and restlessness, fatigue and dry mouth, poor appetite and sleep disturbance. Tongue: dark red body with ecchymotic spots on the edges, thick yellow coating. Pulse: wiry, fine, and 澀 (thready). August 2025 Holter monitoring revealed: frequent atrial premature beats (including paired atrial premature beats and atrial triplets lasting 189 seconds) and ventricular premature beats (including ventricular couplets lasting 8 seconds). Professor Wu Yongchang diagnosed this as Liver Yang Rising with Phlegm-Stasis Obstruction. Treatment focused on calming Liver Yang, clearing heat, resolving phlegm, removing stasis, nourishing the heart, and calming the spirit. Initial prescription: Modified Tianma Gou Teng Decoction combined with Wendan Decoction: - Tianma (10g), Gou Teng (12g), Shijueming (15g, decocted first), Zhenzhu Mu (20g), Sheng Longgu (15g) to pacify liver yang and subdue rising yang; - Jiang Banxia (10g), Fuling (15g), Gualou (10g), Zhike (10g) to regulate qi and resolve phlegm; 12g Salvia miltiorrhiza, 12g Ligusticum chuanxiong to activate blood circulation and resolve stasis; 15g Codonopsis pilosula, 15g Polygonatum sibiricum to tonify qi and nourish yin; 10g Sophora flavescens to clear heart heat and relieve restlessness; 6g Fried Glycyrrhiza uralensis to harmonize the formula. After 7 doses, follow-up revealed significantly reduced palpitations and dizziness. Holter monitoring showed complete resolution of atrial arrhythmia. Third consultation: Formula changed to modified Gu Lou Xie Bai Ban Xia Tang combined with Xue Fu Zhu Yu Tang. After continuing treatment for 7 doses, all symptoms markedly improved. Comparative Holter monitoring during treatment

showed: pre-treatment mixed atrial and ventricular complex arrhythmias transformed into complete resolution of atrial arrhythmias post-treatment, with ventricular premature beats no longer occurring in clusters, objectively confirming therapeutic efficacy.

Commentary: This case represents a typical example of refractory arrhythmia treated by Professor Diwu Chang at the Famous Physician Clinic of the Second Affiliated Hospital of Shaanxi University of Traditional Chinese Medicine. Professor Diwu posits that the pathogenesis stemmed from the patient's constitutional deficiency of liver and kidney qi, compounded by emotional distress leading to liver qi stagnation and hyperactivity of liver yang, disrupting normal qi regulation. Liver qi stagnation transformed into fire, causing liver yang hyperactivity that scorched body fluids into phlegm. Qi stagnation impeded blood circulation, leading to internal blood stasis. Ultimately, phlegm, fire, and stasis intertwined, disturbing the heart spirit and manifesting as palpitations. Although the disease location was in the heart, its root lay in the liver, aligning with the "heart-liver co-disease" pattern. Professor Wu, adhering strictly to this pathogenesis, implemented a phased treatment strategy: In the initial stage, the focus was on calming liver yang and clearing heat to resolve phlegm. Herbs such as gastrodia tuber (Tianma), uncarina (Gouteng), and oyster shell (Shijueming) were selected to clear liver fire, while ginger pinellia (Jiangbanxia), poria (Fuling), and trichosanthes root (Gualou) were used to resolve phlegm and disperse nodules—addressing the acute symptoms. Once liver fire was subdued and phlegm-heat gradually resolved, the focus shifted to broadening the chest, regulating qi, and promoting blood circulation to unblock vessels. The formula Gu Lou Xie Bai Ban Xia Tang was combined with blood-activating and stasis-resolving herbs to unblock the heart vessels and address the root cause. The entire treatment plan embodies the therapeutic principle of "regulating qi and blood to ensure smooth flow" as taught by the Fifth Professor. By harmonizing liver qi function and subduing hyperactive liver yang, qi and blood circulation is restored, phlegm and stasis are resolved, and heart meridian patency is achieved. Notably, objective changes in the Holter monitor closely correlated with clinical symptom improvement: atrial arrhythmias resolved completely post-treatment, while ventricular arrhythmias showed marked improvement. This fully validates the scientific rationale and efficacy of treating refractory arrhythmias through liver-focused therapy. This case illustrates that for refractory cases unresponsive to conventional treatments with recurrent symptoms, the diagnostic process should emphasize the holistic perspective of Traditional Chinese Medicine. Moving beyond localized pathology, it is crucial to recognize the liver's central role in regulating qi dynamics and coordinating organ functions. Only by adopting a treatment approach centered on liver regulation while simultaneously addressing both heart and liver—thus calming the heart and stabilizing the spirit—can satisfactory therapeutic outcomes be achieved.

7. Conclusion

This paper, grounded in the theory of "liver governing free flow," elucidates the theoretical basis and clinical practice pathways for treating refractory arrhythmias from a liver-centered perspective. Refractory arrhythmias fall under

the categories of "palpitations" and "restlessness" in traditional Chinese medicine. Their pathogenesis hinges on impaired liver qi regulation, which disrupts qi dynamics and subsequently generates pathological products like phlegm, fire, and stasis. These disturb the spirit and obstruct the heart meridians, causing the condition to evolve from excess to deficiency and from qi to blood, resulting in a complex and difficult-to-treat pattern. The liver and heart share a "wood-fire mutual generation" relationship: physiologically, they function in tandem; pathologically, they influence each other. Smooth liver qi ensures unobstructed heart vessels, while abundant liver blood nourishes the heart spirit. Therefore, treatment must adhere to the principle of "regulating the liver to treat the heart," with the core focus on "regulating qi and blood to restore smooth flow." This involves applying methods such as soothing the liver and regulating qi, clearing liver fire, resolving phlegm and removing stasis, and nourishing blood to soften the liver in a phased approach. This restores the liver's regulatory function, thereby calming internal disturbance and stabilizing the mind. The case study of Liu XX presented herein exemplifies precise pattern differentiation and dynamic treatment principles guided by this theory. Not only did clinical symptoms show significant improvement, but objective indicators such as Holter monitoring also demonstrated concurrent enhancement. This particularly highlights the clinical advantages and value of liver-based treatment for refractory arrhythmias that are poorly controlled by Western medications and prone to recurrence. In summary, building upon historical experience in liver-centered treatment, this study establishes a novel three-stage pathogenesis framework. It provides essential TCM-specific approaches and methodologies for managing refractory arrhythmias.

References

- [1] Wang Y G, Wang J C, Wang A L. Mechanism and clinical application of proprietary Chinese medicines in the treatment of arrhythmia [J]. *Journal of Clinical Cardiology*, 2024, 40(3): 167-170.
- [2] Fu D. Cardiac Arrhythmias: Diagnosis, Symptoms, and Treatments [J]. *Cell Biochemistry and Biophysics*, 2015, 73(2): 291-296.
- [3] Czeisler M E. Rhythms of Risk: Circadian Influences on Cardiac Electrophysiology and Drug-Induced Arrhythmias [J]. *Journal of Biological Rhythms*, 2025: 566592732.
- [4] Cao K J, Chen K P, Chen M L, et al. 2020 Chinese expert consensus on ventricular arrhythmia (updated version of 2016 consensus) [J]. *Chinese Journal of Cardiac Pacing and Electrophysiology*, 2020, 34(3): 189-253.
- [5] Song M Y, Zhu C L, Jiang L, et al. Research progress on non-steroidal anti-inflammatory drugs and cardiovascular disease risk [J]. *Sichuan Medical Journal*, 2025, 46(9): 1056-1061.
- [6] Dong R Y, Wu Y H. Treatment of tachyarrhythmia from liver perspective by nourishing spleen and liver method [J]. *China Modern Doctor*, 2025, 63(21): 89-91.
- [7] Zhang Z J, Feng Y, Wang M Y. Illustrated Treatise on Febrile Diseases [M]. Shijiazhuang: Hebei Science and Technology Press, 2024.

- [8] Chen C M, Wu H Q, Wang Y X, et al. Theoretical origin of liver-heart comorbidity [J]. *Jiangsu Journal of Traditional Chinese Medicine*, 2025, 57(6): 59-61.
- [9] Chen Z, Liu D L. Discussion on theoretical connotation of liver governing dispersion and discharge based on bile acid metabolism and receptor signaling [J]. *Acta Chinese Medicine*: 1-9.
- [10] Zhang Y G, Wang B. Moxibustion therapy for post-COVID fatigue based on conception vessel governing qi theory [J]. *Journal of Liaoning University of Traditional Chinese Medicine*, 2024, 26(8): 209-212.
- [11] Chen F Y, Gong L H. Pathogenesis of ventricular premature beat complicated with anxiety and depression and research progress of traditional Chinese medicine treatment [J]. *Journal of Practical Traditional Chinese Internal Medicine*: 1-6.
- [12] Nanjing University of Chinese Medicine. *Treatise on Febrile Diseases* [M]. Shanghai: Shanghai Science and Technology Press, 2018.
- [13] Ma P Y, Cui X R, Gong L H. Mechanism of soothing liver and invigorating spleen method in treating arrhythmia and depression based on theory of different diseases treated with same therapy [J]. *Chinese Journal of Integrated Chronic Disease Medicine*, 2025, 2(2): 50-55.
- [14] Lv X L, Zhu L P, Yan J S, et al. Syndrome differentiation and treatment of psychological stress-induced myocardial ischemia based on simultaneous regulation of heart and liver [J]. *Yunnan Journal of Traditional Chinese Medicine and Materia Medica*, 2025, 46(7): 19-23.
- [15] Zhang J, Wang P. Treatment of frequent ventricular premature contractions under dual-heart medicine model based on theories of heart governing blood circulation and heart governing spirit [J]. *Chinese Folk Therapy*, 2025, 33(2): 33-35.
- [16] Huan N, Wang C L. Syndrome differentiation thinking of Professor Wang Chenglong in treating mental stress-induced myocardial ischemia [J]. *Liaoning Journal of Traditional Chinese Medicine*, 2021, 48(2): 45-47.
- [17] Ye L J, Yang T, Dai S. Six therapeutic methods for palpitations by modern physician Zhang Jianzhai in the Republic of China period [J]. *Liaoning Journal of Traditional Chinese Medicine*, 2018, 45(6): 1151-1152.
- [18] Yuan H, Luo Y H. Clinical experience of Luo Yuhuan in treating refractory arrhythmia [J]. *Clinical Journal of Traditional Chinese Medicine*, 2023, 35(10): 1944-1947.
- [19] Wan Y Y, Shang Q H, Xu H. Experience of Professor Xu Hao in treating palpitations based on liver governing dispersion and discharge theory [J]. *Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease*, 2024, 22(6): 1146-1148.
- [20] Zhang Z X, Deng W. Research progress on modern clinical application and mechanism of Longdan Xiegan Decoction [J]. *Journal of Liaoning University of Traditional Chinese Medicine*, 2025, 27(9): 203-207.