DOI: 10.53469/jcmp.2026.08(02).22

The Treatment of Agitated and Aggressive Behaviors in Vascular Dementia based on the Theory of "Heat Coagulating Blood Vessels"

Cancan Liu[1], Jingqing Hu[1,2,*]

[1]The First School of Clinical Medicine, Shaanxi University of Chinese Medicine, Xianyang 712046, Shaanxi, China
[2]Tianjin University of Traditional Chinese Medicine, Tianjin 300000, China
Correspondence Author

Abstract: ***The theory of "heat accumulation in blood vessels" was proposed by Researcher Hu Jingqing through a comprehensive review of traditional Chinese medical literature, clinical experience, and optimization of therapeutic effects, combined with theoretical exploration. This theory builds upon the traditional pathogenic mechanisms of phlegm-heat, blood stasis-heat, and the mutual entanglement of phlegm and blood stasis leading to heat, and takes "heat accumulation" as the key point to summarize the common pathogenic mechanisms of various diseases centered on vascular lesions (such as cardiovascular and cerebrovascular conditions) or those where the vasculature is affected in their pathological processes. Researcher Hu Jingqing pointed out that the pathogenesis of vascular dementia mainly involves three aspects: "deficiency", "phlegm", and "blood stasis". However, the agitated and aggressive behaviors are secondary mental disorders on the basis of vascular dementia, which cannot be fully explained by the three aspects of "deficiency", "phlegm", and "blood stasis". Based on the theory of "heat accumulation in blood vessels", the pathogenic evolution of agitated and aggressive behaviors in vascular dementia can be summarized as follows: the long-term entanglement of "deficiency", "phlegm", and "blood stasis" eventually leads to the generation of heat and fire, which further breeds toxins and causes disorders, damaging the blood vessels and forming a vicious cycle of accumulated heat → toxin formation → symVaDtom formation → vessel damage.***

Keywords: Vascular dementia, Agitated and aggressive behavior, Fire (heat), Heat accumulation in the blood vessels.

1. Introduction

Vascular dementia (VaD), a common form of dementia resulting from cerebrovascular lesions and characterized by acquired cognitive impairment, is second only to Alzheimer's disease in prevalence [1]. In addition to cognitive dysfunction, patients with VaD frequently present with clinical manifestations including psychiatric symptoms and behavioral abnormalities [2]. Among these, agitated aggressive behavior represents the most intractable neuropsychiatric symptom [3]. According to the 2023 International Psychogeriatric Association (IPA) consensus, agitation in cognitive impairment or dementia refers to excessive motor activity, verbal or physical aggression occurring in this patient population, associated with emotional distress, and not solely attributable to another condition (e.g., psychiatric, substance-related, or medical) [4]. Agitated behavior is commonly categorized into four types: physical aggressive behavior, physical non-aggressive behavior, verbal aggressive behavior, and verbal non-aggressive behavior [5]. Common agitated behaviors include restlessness, pacing or wandering, shouting, inappropriate undressing, biting or kicking others, sexual disinhibition, and self-injurious or other-directed harmful acts. As the most challenging neuropsychiatric symptom, agitated aggressive behavior not only endangers the safety of patients and others but also accelerates disease progression, increases hospitalization and mortality rates, thereby imposing a substantial burden on families and society [6]. The pathogenesis of agitated aggressive behavior in VaD remains incompletely understood by modern medicine, and safe, effective treatment options are lacking. Antipsychotic medications are often the first-line pharmacotherapy for managing agitation and aggression but may paradoxically worsen cognitive impairment and increase the risk of death [7].

Based on its clinical symptoms, agitated aggressive behavior in VaD can be categorized within traditional Chinese medicine (TCM) under terms such as "dementia," "mania," or "manic-depressive disorder." TCM theory often interprets VaD-related agitation and aggression through the lens of "heat-fire" pathogenesis. For instance, the Suwen·Zhi Zhen Yao Da Lun states, "All restlessness, mania, and agitation pertain to fire," and the Puji Fang contains discussions on "heat toxin stagnating in the heart and chest" causing mania. These classical texts laid the theoretical foundation for understanding how "heat-fire" leads to the various manifestations of somatic and spiritual disharmony in VaD. Researcher Hu Jingqing has proposed that "heat binding in the blood vessels" constitutes a core pathogenesis for VaD (and cardiovascular-cerebrovascular diseases generally). He suggests that diverse internal and external factors can generate intense heat-fire that disturbs the heart-mind, predisposing individuals to frequent episodes of agitated aggressive behavior. The author has had the privilege of learning from Researcher Hu's clinical practice and greatly benefited from his insights. This paper summarizes his experience in treating VaD-associated agitated aggressive behavior based on the "heat binding in the blood vessels" theory, aiming to share this knowledge with colleagues.

2. Overview of the "Heat Binding in the Blood Vessels" Theory

Researcher Hu Jingqing has proposed [8] that "heat binding in the blood vessels" refers to a pathological process where intangible heat pathogens bind inextricably with tangible substances like phlegm-dampness and blood stasis within the vessels. This creates a self-perpetuating vicious cycle of heat accumulation, toxin generation, mass formation, and vascular

damage. The source of "heat" may be external contractions of the six excesses transforming into heat internally, heat generated from prolonged stagnation of pathological products within the vessels, or heat transformed from constitutional or emotional factors. Secondly, "binding" (Jie) implies obstruction and congealing [9]; it describes the state where intangible heat pathogens and tangible "water-blood" substances bind together, emphasizing an inseparable, entangled condition. As stated in the Shanghan Mingli Lun: "What is called binding is like something knotted together, unable to be separated." Finally, the blood vessels (Xuemai) are the disease location of heat binding. Classified as an extraordinary fu organ, the vessels permeate the entire body and serve as the pathways for qi and blood circulation. Their physiological characteristic is to "store essential qi without discharging." Blood is the material foundation of the body's essence, qi, and spirit, and a vital substance sustaining life activities. It circulates within the vessels without rest, nourishing the entire body. The Suwen·Mai Yao Jing Wei Lun states, "The vessels are the residence of the blood," indicating that the vessels are the channels for blood distribution, governing its movement. The appropriate constriction and relaxation, and unobstructed nature of the vessels are crucial for ensuring blood circulation [10]. The Huangdi Neijing·Lingshu·Jiuzhen Lun records, "What enables humans to grow and live are the blood and vessels." The blood vessels are not merely pathways for qi and blood but encompass an integrated system comprising qi, blood, and the meridians, forming the foundation of life activities [11]. When the blood vessels are harmonious and unimpeded, the body and spirit are nourished, resulting in abundant vitality and a clear mind. Disharmony of the blood vessels leads to damage to both the body and spirit, giving rise to various disorders.

3. Analysis of Agitated Aggressive Behavior in VaD Based on the "Heat Binding in the Blood Vessels" Theory

3.1 Dementia Arises from Deficiency, Phlegm, and Stasis; Prolonged Stagnation Transforms into Heat (Fire) Disturbing the Mind, Leading to Mania-Depression

The etiology and pathogenesis of VaD primarily involve malnourishment of the brain marrow, internal obstruction of blood stasis, and clouding of the orifices by phlegm stasis. The pathological mechanisms are attributed to "deficiency," "phlegm," and "stasis," with the disease nature characterized by root deficiency and branch excess [2]. According to the clinical staging and syndrome differentiation theory for dementia by Academicians Zhang Boli and Tian Jinzhou, agitated aggressive behavior in VaD often occurs during the fluctuating or declining phase of the illness. The plateau phase of VaD is dominated by symptoms of intellectual impairment, with neuropsychiatric symptoms being rare. As the disease progresses to the middle and late stages, in addition to increasingly severe intellectual deficits, abnormal psychiatric and behavioral symptoms frequently appear. Patients not only exhibit progressively worsening cognitive impairment — including declines in memory, calculation, orientation, attention, and language functions—but their neuropsychiatric symptoms also superimpose additional damage upon cognitive function, rendering the disease nature more complex [12]. Researcher Hu Jingqing posits that the emergence of agitated aggressive behavior signals a shift in pathogenesis. When such behavior manifests, the focus should be on "heat binding." As the disease develops, "deficiency," "phlegm," and "stasis" can stagnate and generate heat. This "heat" gradually accumulates, binding and transforming with tangible substances like phlegm turbidity and blood stasis, becoming entangled and difficult to resolve. "Heat" can cause damage independently or combine with phlegm, stasis, or phlegm-stasis complexes, forming the pathological state of "heat binding." This obstructs the orifices and collaterals of the heart and brain, disturbing the mind, and resulting in manic or depressive symptoms. As stated in the Yixue Zhong Zhong Can Xi Lu·Yi Fang: "The pattern of mania-depression arises from phlegm-fire rising upwards, obstructing and blocking the connecting collaterals between the heart and brain, leading to a lack of communication between heart and brain, and chaos in the mind."

3.2 Accumulated Heat Generates Toxin; Mass Formation Damages Vessels, Exacerbating Dementia and Disrupting Body and Spirit Further

When the three pathogenic factors—phlegm turbidity, blood stasis, and heat-fire—intertwine and race through the vessels, if not promptly resolved, their binding becomes stubborn and difficult to disentangle. Prolonged retention leads to stagnation transforming into toxin, as elucidated in the Jingui Yaolue: "Toxin refers to the state of pathogenic qi accumulating and not resolving." As the toxic pathogen becomes rampant, it coils within the vessels and harasses the brain collaterals, further impeding the movement of qi, blood, and fluids. This leads to greater accumulation of pathological products like phlegm, stasis, and heat, which in turn generates more toxin. Heat-toxin disturbing the upper orifices deprives the mind of its clear and tranquil nature, manifesting as out-of-control, hyperactive agitated behavior. Heat-toxin is intangible, while phlegm and stasis are tangible. Their binding within the vessels over time forms accumulations, eventually resulting in the formation of masses (Zheng Jia), akin to the description in the Xue Zheng Lun·Yu Xue: "When static blood resides within the meridians, organs, or bowels, it congeals into masses." As stated in the Danxi Xinfa: "Phlegm accompanied by static blood forms nests and pockets." Once masses are formed, they further obstruct the vessels, damaging vascular function and structure, ultimately leading to chronic, entrenched disease. The Lingshu·Benshen states, "The heart houses the spirit; the vessels house the spirit." The heart governs the mind, and the brain stores the original spirit (Yuan Shen); the spirit resides in the vessels. Zhang Xichun's Yixue Zhong Zhong Can Xi Lu notes: "The function of the mind originally relies on the mutual assistance of the heart and brain." The heart and brain share a common origin; essence and blood transform into marrow, forming the foundation of the mind. When fluids and blood provide moistening nourishment, and the vessels are unobstructed, the heart-mind is nourished, and the brain remains clear and bright [13]. Conversely, if the morphology and function of the vessels are damaged, the transportation and distribution of qi, blood, and fluids become abnormal. The heart-mind loses nourishment, the spirit mechanism is affected, and the brain becomes clouded. This exacerbates cognitive impairment and the

various symptoms of somatic and spiritual disharmony [14], as described in the Zabing Yuanliu Xizhu: "Stagnation and coagulation of qi and vessels lead to confusion of the ethereal and corporeal souls." This ultimately culminates in the vicious cycle of heat accumulation, toxin generation, mass formation, and vascular damage [8].

4. Treatment of Agitated Aggressive Behavior in VaD Based on the "Heat Binding in the Blood Vessels" Theory

Researcher Hu Jingqing believes that during episodes of agitated aggressive behavior, treatment should be based on identifying the pattern and seeking the pathogenesis. At this stage, the branch excess is acute, so treatment should focus on the branch excess to alleviate the immediate urgent symptoms. Based on the "heat binding in the blood vessels" theory, Researcher Hu proposes a therapeutic approach centered on clearing heat and cooling blood, resolving masses and nourishing the vessels, supplemented by draining fire and resolving toxin, and calming the mind and stabilizing the spirit. Specifically, clearing heat and resolving toxin aim to reduce the "heat-toxin load." However, since this heat differs from ordinary heat pathogens, often binding with tangible excess pathogens like phlegm and stasis, treatment cannot rely solely on clearing heat, draining fire, and resolving toxin; it must simultaneously emphasize activating blood and resolving masses [15]. In clinical practice, Researcher Hu often uses his self-formulated Jinxuan Anmai Fang as a base formula to achieve the effects of clearing heat and resolving toxin. He simultaneously accompanies it with blood-cooling and blood-activating herbs to dredge and unblock the vessels, supplemented by the Shengmai San or "salty-flavored" medicinals to nourish yin and restore the vessels, aiming to regulate yin and yang and achieve the therapeutic goal of equilibrium.

4.1 Clear Heat and Resolve Toxin, Urgently Drain Blazing Fire – Heat Removed, Toxin Resolved, Brain Orifices Cleared

Fire is the extreme of heat; toxin is the accumulation of fire. Compared to slowly developing patterns like qi stagnation, phlegm coagulation, and stasis obstruction, toxic pathogens injure the body most severely and acutely [16]. The toxic pathogen disturbing the mind can abruptly cause mental derangement, manifesting as irritability, easy anger, verbal abuse and physical aggression, hallucinations, abnormal behavior, and other out-of-control symptoms. During this stage, treatment prioritizes clearing heat and resolving toxin to urgently drain the blazing fire and break its momentum. Once heat is eliminated and toxin resolved, the brain orifices become clear, and the spirit mechanism regains clarity. At this stage, Researcher Hu frequently uses his self-formulated Jinxuan Anmai Fang for clearing heat and resolving toxin. This formula is derived from the Simiao Yong'an Tang, with modifications. Simiao Yong'an Tang was first recorded in the Han dynasty text Huatuo Shenyi Michuan and later compiled by Bao Xiang'ao in the Yanfang Xinbian during the late Qing dynasty [17]. In the formula, the monarch herb Jinyinhua (Lonicerae Japonicae Flos), sweet and cold in nature and entering the heart channel, excels at clearing heat and resolving toxin. The minister herb Xuanshen (Scrophulariae Radix) cools blood, nourishes yin, and drains fire and resolves toxin. The adjuvant herb Danggui (Angelicae Sinensis Radix), salty and cold, nourishes the vessels and cools and activates blood. The envoy herb Gancao (Glycyrrhizae Radix et Rhizoma) harmonizes the medicinal actions. The combination of these four herbs integrates the effects of clearing heat, moistening dryness, dissipating stasis, and relieving stagnation within one formula, achieving appropriate clearing and moistening, and both unblocking and dispersing [18]. Modern pharmacological research suggests that Simiao Yong'an Tang possesses anti-inflammatory, lipid-lowering, vascular protective, and plaque-stabilizing effects [19]. If fire toxin is extreme, presenting with clouded spirit and delirious speech, Researcher Hu often adds Niuhuang (Bovis Calculus) or combines with Angong Niuhuang Wan for emergency relief. Angong Niuhuang Wan has the effects of clearing heat, resolving toxin, opening the orifices, and reviving the spirit. Research indicates that Angong Niuhuang Wan can significantly regulate levels of monoamine neurotransmitters (5-hydroxytryptamine, norepinephrine) and the cholinergic neurotransmitter (acetylcholine) in the brains of rats with brain injury models, thereby improving neurological function [20].

4.2 Cool Blood and Activate Blood, Unblock Stagnant Bindings – Stasis Resolved, Phlegm Dispersed, Vessels Unobstructed

Because pathogenic heat deeply enters the nutrient and blood aspects, it inevitably first consumes nutrient yin. Therefore, during episodes of agitation and aggression in VaD, patients typically exhibit symptoms such as dry mouth, bitter taste, red tongue, and yellow coating. Wu Youke's Wenyi Lun·Fabao Zhanhan Helun states: "Qi pertains to yang and is light and clear; blood pertains to yin and is heavy and turbid. Therefore, when pathogens reside in the qi aspect, they can be dispersed; when pathogens reside in the blood aspect, they often cause much adhesion and stagnation." Consequently, at this stage, Researcher Hu emphasizes "cooling blood and activating blood." He employs methods of clearing the nutrient aspect, cooling blood, activating blood, and resolving masses, often combining Huzhang (Polygoni Cuspidati Rhizoma et Radix) and Lianqiao (Forsythiae Fructus). Both enter the blood aspect and possess the effects of cooling blood and resolving toxin. Huzhang, bitter and descending, drains heat and unblocks the bowels. Lianqiao, bitter and cold, clears heat and resolves masses. The synergistic use of these two herbs both clears stagnant heat in the blood aspect and allows the pathogen to be eliminated through urination and defecation, serving as an excellent pair for resolving heat pathogens through dual outlets. This aligns with Researcher Hu's frequent clinical emphasis on the Shanghan Lun principle that treating "binding" often requires purging methods to provide an exit for the heat pathogen. Danshen (Salviae Miltiorrhizae Radix et Rhizoma) is also commonly combined to cool, activate, and nourish blood. Guizhi (Cinnamomi Ramulus) acts as a messenger to the vessels, guiding the various herbs into the vessels and, with its acrid-warm property, prevents the entire formula from becoming excessively cold. Furthermore, Huzhang has the effect of resolving phlegm and draining dampness. Combined with the above herbs, it helps expel tangible pathogens like phlegm and stasis. Once stasis is resolved and phlegm dispersed, the vessels become

unobstructed, leaving no place for the heat pathogen to attach.

4.3 Nourish Yin and Restore the Vessels, Cultivate the Root Source – Vessels Restored, Spirit Calmed, Yin and Yang Mutually Assisting

Li Chan's Yixue Rumen states: "When disease resides in the vessels, regulate the blood." If the structure of the vessels is damaged, their functions of nourishing the spirit and transporting and distributing qi and blood will inevitably be impaired, making it difficult for essential substances to reach the mansion of the original spirit (the brain). Treatment should focus on nourishing blood, enriching yin, and moistening the vessels, supplementing the kidneys, benefiting essence, and filling the marrow. This cultivates the root source, allowing marrow to be replenished, vessels nourished, and heat eliminated, thereby calming the mind. Based on syndrome differentiation, Researcher Hu often adds Shengmai Yin to nourish yin and restore the vessels. Li Dongyuan's Neiwaishang Bianhuo Lun records that Shengmai Yin consists of three medicinals: Renshen (Ginseng Radix et Rhizoma), Maidong (Ophiopogonis Radix), and Wuweizi (Schisandrae Chinensis Fructus). In this formula, Renshen greatly supplements original qi, generates fluids, and calms the spirit. Maidong nourishes yin and clears heat, neutralizing the dryness of Renshen. Wuweizi consolidates the kidneys and quiets the heart, preventing dissipation of qi and yin. Shengmai San has effects such as anti-stress injury, lipid-lowering, improving hemorheology, and enhancing brain function, providing a pharmacological basis for its use in neuropsychiatric disorders [21]. Studies show that ginsenoside Re in Shengmai San improves cognitive function in rats by enhancing the expression of mitochondrial cytochrome c oxidase (COX IV) and pyruvate dehydrogenase-A1 (PDH-A1) in hippocampal neurons and inhibiting the release of hydrogen peroxide (H_2O_2), thereby improving mitochondrial function [22]. Additionally, schisandrin from Wuweizi may exert therapeutic effects on VaD by enhancing the body's antioxidant capacity, reducing oxidative stress injury and cell apoptosis [23]. Researcher Hu emphasizes "nourishing the vessels with salty flavors" [24] and frequently adds "salty-flavored" medicinals to regulate and nourish the vessels. This aligns with the Suwen·Xuanming Wuqi Pian statement, "Salt enters the blood." Examples include using salty-cold herbs to clear heat and protect the vessels (e.g., Xuanshen), salty-moist herbs to soften hardness and unblock the vessels (e.g., Muli, Xuejie, Zicao), and salty herbs to generate essence and blood to replenish the vessels (e.g., Haipiaoxiao), thereby achieving the goal of nourishing the vessels.

5. Case Report

Patient: Male, 80 years old.

Initial Visit: October 15, 2023.

Chief Complaint (by family): Memory decline for two years, worsening over the past two weeks.

History of Present Illness: The patient has a history of stroke (cerebral infarction). He exhibits decreased memory and comprehension; in severe instances, he fails to recognize family members. He frequently experiences hallucinations, is irritable, and has even physically abused and verbally assaulted his caregivers. His sleep-wake cycle is reversed. Bilateral lower extremities show mild edema. Urination is normal. Stool is dry, often requiring glycerin enemas for relief.

Past Medical History: Cerebral infarction, coronary heart disease, hypertension, chronic obstructive pulmonary disease.

Imaging Findings: Lacunar infarction, white matter lesions, brain atrophy.

Physical Examination: Elderly male, fair general mental state, dull complexion, delayed reaction. Tongue: red, with yellow and greasy coating. Lips: dark purple. Pulse: wiry and slippery.

Syndrome Differentiation (based on symptoms, signs, tongue, and pulse): TCM Diagnosis: Vascular dementia. Western Medicine Diagnosis: Vascular cognitive impairment.

Therapeutic Principle: Clear heat and resolve toxin, cool blood and activate blood, promote diuresis to reduce edema.

Formula: Modified self-formulated Jinxuan Anmai Fang.

Composition:

Jinyinhua 20g, Danggui 12g, Xuanshen 15g, Sheng Gancao 9g, Lianqiao 20g, Danshen 20g, Huzhang 12g, Fuling 12g, Chao Baizhu 12g, Zhuling 12g, Zexie 12g, Guizhi 15g, Dafupi 30g, Dongguapi 30g.

Administration: 7 doses, one packet daily, decocted in water for oral administration, divided into morning and evening doses.

Second Visit (October 24, 2023): The family reports a decreased frequency of hallucinations. The patient's mood is more stable. Bowel movements are normal. Plan: Continue the previous formula for another 14 doses, same preparation and administration.

Third Visit (November 14, 2023): Memory and comprehension are slightly improved compared to before. The patient reports experiencing dyspnea when lying flat at night since the weather turned cold recently; sleep is generally poor. Plan: Modify the second-visit formula by adding Kuxingren 12g, Zisuye 12g, and Tinglizi 9g. Dispense 14 doses, same preparation and administration.

Fourth Visit (November 28, 2023): Memory and comprehension have somewhat improved. Nocturnal dyspnea and mild bilateral lower extremity edema are reduced. Plan: Modify the third-visit formula by adding Fupian 12g, Hongjingtian 30g, Maidong 15g, Taizishen 15g, and Wuweizi 15g. Dispense 14 doses, same preparation and administration.

Fifth Visit (December 12, 2023): The patient's condition is stable recently. Various symptoms have improved. He is essentially able to care for himself in daily life. Appetite and digestion are normal. Urination and defecation are regulated.

Plan: Modify the fourth-visit formula by removing Zisuye, reducing Dafupi and Dongguapi to 20g each, and adding Roucongrong 12g. Dispense 14 doses, same preparation and administration.
Advice: Advise family members to interact more with the patient and schedule regular follow-up visits for consolidation.

Case Commentary: The patient is elderly with a long-standing illness, leading to spleen and kidney deficiency. The kidneys govern bones and produce marrow; consequently, the brain marrow is inadequately filled. Additionally, with a history of cerebral infarction, static blood obstructs the brain collaterals post-stroke, hindering qi and blood circulation and depriving the original spirit of nourishment. These mechanisms collectively contribute to the development of dementia. At the time of presentation, the patient was in a fluctuating phase of the illness. Static blood obstructing the brain collaterals not only blocks the vessels but also binds with accumulated heat pathogen internally, subsequently transforming into heat-toxin, forming masses, and damaging the vessels, thereby exacerbating cognitive dysfunction and neurological symptoms. Therefore, the chosen treatment strategy focused on clearing heat and resolving toxin, cooling blood and activating blood, and promoting diuresis to reduce edema. The self-formulated Jinxuan Anmai Fang was selected to urgently drain the blazing fire. Jinyinhua drains fire, resolves toxin, cools blood, and activates blood. Xuanshen clears heat, nourishes yin, cools blood, and resolves masses. Danggui (salty-cold) nourishes the vessels, activates blood, and cools blood. Due to qi deficiency failing to move fluids, resulting in bilateral lower extremity edema, Wuling San was added to promote diuresis, percolate dampness, warm yang, and transform qi. Danshen was included to enhance blood-cooling and activating effects. Lianqiao and Huzhang were added to cool blood, resolve toxin, activate blood, and resolve masses. Dafupi and Dongguapi were added to promote diuresis and reduce edema. Sheng Gancao harmonizes the actions of all herbs. At the second visit, the patient's condition had improved, indicating initial treatment efficacy, so the formula was continued for another two weeks. At the third visit, considering the recent weather change, Kuxingren was added to descend qi and calm dyspnea, Zisuye to disperse cold and move qi, and Tinglizi to drain the lungs and expel water. By the fourth visit, nocturnal dyspnea and mild lower extremity edema had lessened. Building on this progress, Fupian was added to enhance the formula's effect of warming yang and promoting diuresis, Hongjingtian to activate blood and nourish the heart, and Shengmai San (with Renshen replaced by Taizishen) to nourish yin and moisten the vessels, prescribed for 14 doses. By the fifth visit, the patient was essentially able to care for himself. The dosage of diuretic herbs was reduced, and kidney-supplementing, essence-filling medicinals (Roucongrong) were added appropriately to tonify the kidney root.

6. Conclusion

Agitated aggressive behavior in VaD represents one of the most challenging and disruptive geriatric syndromes. It not only harms the patient's own health and quality of life but also exacerbates the mental stress and economic burden on family members and caregivers, further increasing the consumption of social healthcare resources. Geriatric patients often present with complex conditions involving both deficiency and excess, making them more difficult to treat compared to psychiatric disorders in younger adults. Drawing upon years of clinical experience, Researcher Hu Jingqing has proposed the "heat binding in the blood vessels" theory, offering an in-depth exploration of the pathogenesis underlying the development and progression of agitated aggressive behavior in VaD. Through analysis of clinical manifestations and pathogenesis, it is recognized that the pathological factors involved in VaD agitation are consistently linked to "deficiency," "phlegm," and "stasis." However, the pathological cycle resulting from the interweaving of these three factors—leading to heat accumulation, toxin generation, mass formation, and vascular damage—merits further in-depth consideration.

References

[1] Jiang Xiaoqu, Cai Jing, Wu Yuanhua, et al. Progress in Experimental Research on Traditional Chinese Medicine Prevention and Treatment of Vascular Dementia in the Past Five Years [J]. World Chinese Medicine, 2024, 19(11): 1680-1685+1692.
[2] Luo Lin, Hu Nan, Fu Yeping, et al. Research Progress of Yueju Pill in Treating Vascular Dementia Based on the Theory of Soothing Liver and Regulating Spleen [J]. Chinese Journal of Integrative Medicine on Chronic Diseases: 1-21.
[3] Guo Man. Research Progress on Agitated Behaviors in Elderly People with Dementia [J]. Practical Geriatrics, 2022, 36(12): 1288-1291.
[4] Cummings J, Mintzer J, Brodaty H, et al. Agitation in cognitive disorders: International Psychogeriatric Association provisional consensus clinical and research definition [J]. Int Psychogeriatr, 2015, 27(1): 7-17.
[5] Ye Fen, Liao Shuli, Xiao Lu, et al. Research progress on the occurrence and influencing factors of agitated behaviors in elderly with dementia in nursing homes [J]. Journal of Nursing Science, 2021, 38(02): 79-81+85.
[6] Khan S S, Ye B, Taati B, et al. Detecting agitation and aggression in people with dementia using sensors-A systematic review [J]. Alzheimers Dement, 2018, 14(6): 824-832.
[7] Banerjee S, High J, Stirling S, et al. Study of mirtazapine for agitated behaviours in dementia (SYMBAD): a randomised, double-blind, placebo-controlled trial [J]. Lancet, 2021, 398(10310): 1487-1497.
[8] Hu Jingqing. An Introduction to the "Heat Binding in Blood Vessels" Theory [J]. World Science and Technology-Modernization of Traditional Chinese Medicine, 2019, 21(10): 2005-2008.
[9] Zou Jiaxi. HJ11 Improves Endothelial Dysfunction in Lower Extremity Arteriosclerosis Obliterans by Inhibiting the TLR4/MyD88/NF-κB Pathway-Mediated Inflammatory Response [D]: Chengdu University of Traditional Chinese Medicine, 2023.
[10] Ni Wenchao, Cao Kegang, Wang Qingguo, et al. Exploration of TCM Syndrome Differentiation and Treatment Thinking for Vascular Dementia Based on the "Blood Vessel Correlation" Theory [J]. Chinese Journal of Information on Traditional Chinese Medicine, 2022, 29(11): 125-127.

[11] Ning Ziqi, Ning Tieying, Shi Dandan, et al. Treatment of Vascular Dementia Based on the Theory of "Harmonizing Blood Vessels for Mental Ease, and Spirit for Residence" [J]. Practical Journal of Cardiac Cerebral Pneumal and Vascular Disease, 2025, 33(06): 96-98+102.
[12] Xiao Di, Yang Fan, Yang Ronglu, et al. Yang Chengzhi's Experience in Treating Behavioral and Psychological Symptoms of Dementia with Modified Dachaihu Decoction and Guizhi Fuling Pills [J]. Guiding Journal of Traditional Chinese Medicine and Pharmacy, 2021, 27(06): 160-163.
[13] Shi Xingyue, Zhou Xiaoli. Discussion on TDM Syndrome Differentiation and Treatment of Vascular Dementia Based on the "Heart-Brain Simultaneous Treatment" Theory [J]. Clinical Journal of Chinese Medicine, 2024, 16(32): 57-60.
[14] Fu Xin, Lei Jingjing, Wu Shan, et al. Etiology, Pathogenesis, Prevention and Treatment of Vessel Impairment [J]. China Journal of Traditional Chinese Medicine and Pharmacy, 2025, 40(02): 703-706.
[15] Cai Yanran, Jiang Lijie, Li Ziyun, et al. Phlegm Turbidity and Blood Stasis Transforming into Heat: A New Doctrine on the Pathogenesis of Coronary Heart Disease and Its Clinical Application [J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2019, 25(01): 100-102+126.
[16] Zou Yihuai. Exploring the Methodology for Symptom Research Based on the "Toxin Damaging Brain Collaterals" Theory [J]. Journal of Beijing University of Traditional Chinese Medicine, 2006, (07): 448-450.
[17] Guo Zixian, Zheng Liang, Wang Mengyue, et al. Establishment of the Decoction Process for Standard Decoction of Simiao Yong'an Decoction [J]. Chinese Traditional Patent Medicine, 2021, 43(05): 1300-1304.
[18] Yang Zhiling, Liu Zhen, Meng Yunhui, et al. Research Progress on the Application and Mechanism of Simiao Yong'an Decoction in Cardiovascular Diseases [J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2020, 18(01): 85-88.
[19] Li Shuai Shuai, Yu Honghong, Tian Weiyi. Research Progress on the Anti-Atherosclerosis Mechanism of Simiao Yong'an Decoction and Its Compatible Components [J]. Chinese Archives of Traditional Chinese Medicine, 2021, 39(11): 125-129.
[20] Zhu Kunjie, Sun Jianning, Ma Changhua, et al. Effects of Angong Niuhuang Pills and Their Heavy Metal Components on Monoamine Neurotransmitters in the Cerebral Cortex of Rats with Endotoxin-Induced Brain Injury [J]. China Journal of Chinese Materia Medica, 2007, (10): 949-953.
[21] Xie Tian, Xie Ming. Clinical and Experimental Research on Shengmai Powder in the Prevention and Treatment of Mental and Neurological Diseases [J]. China Pharmacist, 2017, 20(10): 1781-1787.
[22] Li Zhaodong. The Mitochondrial Protective Effect of Ginsenoside Re on Rats with Vascular Dementia Induced by Chronic Ischemia [D]: Jilin University, 2017.
[23] Deng Zhirong, Zhou Shiyue, Tan Lin, et al. Effect of Schisandrin on Learning and Memory Ability in Vascular Dementia Mice [J]. Science and Technology Innovation Herald, 2015, 12(01): 26.
[24] Lei Jingjing, Hu Jingqing, Yang Yan, et al. Exploring the Connotation of "Nourishing Vessels with Salty Flavor" [J]. Shaanxi Journal of Traditional Chinese Medicine, 2023, 44(06): 755-757.