

Analysis of the Etiology and Pathogenesis of Vascular Dementia from the Perspective of the Motherland's Medical Theory

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Abstract: Cerebrovascular disease is a kind of disease that endangers the life and health of all human beings, and is also a kind of disease that human beings are extremely afraid of. It has become one of the main causes of death for all human beings because of its high morbidity, high mortality and high incidence. Vascular Dementia (VD) is the only cerebrovascular disease that can be cured through early prevention, and also the only reversible disease in cerebrovascular disease. Discovery, early treatment to change the condition, course, pathological changes. At present, more and more attention has begun to explore the etiology of Chinese and Western medicine, which provides the basis for the treatment of VD. Although more and more doctors are exploring the etiology and pathogenesis of vascular dementia, the etiology and pathogenesis of vascular dementia are still inconclusive. In this paper, the author explores the etiology and pathogenesis of vascular dementia from the perspective of motherland medicine.

1. Introduction

Vascular dementia (VD) is due to various cerebrovascular diseases that damage the function of cerebral blood vessels, change the structure of cerebral blood vessels and lead to cerebral ischemia and hypoxia, thus affecting the normal functions of the brain, such as cognition, memory and behavior[1]. A series of clinical symptoms of persistent memory loss, mental decline, personality behavioral changes and disorders in the corresponding functional areas. With the continuous increase of people's age value, people generally have a life expectancy of 70-80 years, and centenarians are not a problem[2]. The incidence of vascular dementia is also rising linearly, and it is also attracting more and more attention from the medical profession. In recent years, both motherland medicine and modern medicine have carried out active exploration and research on the etiology and pathogenesis of VD[3].

Nonetheless, the etiology and pathogenesis remain unclear. Western medicine has the most research on it and has made extraordinary progress, but it is currently in a bottleneck period. And

Western medicine has many limitations. Treatment with western medicine is limited to relieving symptoms, not curing the symptoms but not the root cause. It does not fundamentally cure the disease, and there will be damage to other organs. China has five thousand years of history, and Chinese medicine has a long history. More and more people start to study the etiology and pathogenesis of VD in traditional Chinese medicine, and begin to explore the unique characteristics and exclusive secrets of traditional Chinese medicine[4]. Chinese herbal medicine has strong efficacy and few side effects. Although little achievements have been made in traditional Chinese medicine, the future of traditional Chinese medicine is promising and the research prospect is bright. The etiology and pathogenesis of dementia still needs to be further studied. Modern Chinese medicine practitioners have carefully reviewed the ancient books and believed that the etiology and pathogenesis of vascular dementia is relatively complex, but in general, it belongs to the basic evidence of deficiency, which is based on the deficiency of the five internal organs and the insufficiency of qi and blood, phlegm turbidity, blood stasis, turbid toxin. It is closely related to the five internal organs of the heart, kidney, liver, spleen and stomach, and lung. Treatment principles.

2. Treating from the Kidney

The kidney is the root of one's own vitality since birth. The kidney stores the essence and controls the bone and the marrow. The brain is the sea of marrow. So the kidneys and the brain are inseparable. Only when the kidney qi is prosperous and the kidney essence is sufficient can sufficient kidney qi be generated to fill the brain. Therefore, tonifying the kidney can strengthen the brain, and the treatment of VD should be based on the kidney, so that the brain can play a good role in the brain function[5]. The Yellow Emperor's Classic of Internal Medicine calls the kidney the official of skill, which in fact shows the close relationship between the brain and the kidney. The so-called trick is that people have spirit, full of wisdom, quick thinking, flexible movements, fluent language, clear thinking, and hyphenation. This is precisely the embodiment of the brain as a god. Kim Jong-hee said: "The spirituality of people is all in the brain. When a child is a child, the brain is dissatisfied, and when an old person is old, the brain gradually becomes empty, so the memory is weak. The brain is derived from the kidney, no proof".

The kidney is composed of yin and yang. The kidney regulates the body's metabolism and the functions of various zang-fu organs through its kidney yin and kidney yang. Kidney yang has the functions of warming, pushing, promoting, exciting, and exciting, while kidney yin has the functions of moisturizing, restricting, inhibiting, and deepening. Under normal circumstances, the human body is in a state of balance between yin and yang, and when the yin and yang of the kidneys are in balance, the body is in balance with yin and yang. If the kidney yang is insufficient, the function of warming and heating will decrease, the metabolism of the body will slow down, the physiological function of the brain will be weakened, and there will be apathy, sluggishness, inability to concentrate, and unresponsiveness. Kidney yin is also known as "yin fluid" and "yin blood". If kidney yin is sufficient, the whole body will be full of yin essence. If kidney yin is deficient, the whole body will be deficient in yin. Symptoms such as restlessness, irritability of the five hearts, and dry mouth. For example, Zuogui Pills and Yougui Pills are prescriptions designed to invigorate kidney yin and kidney yang.

Some people have created "Bushen Huoxue Jiannao Decoction" to treat VD, and the results are very encouraging. It is effective, improving brain function and relieving the symptoms of dementia[6]. Dihuang Yinzi is a well-known formula. The medicine is partial to invigorating the kidney yin and kidney yang, and the kidney yin and yang are supplemented. The curative effect is obvious, and it can be considered as a Chinese patent medicine preparation[7]. After checking the information in many ways, I found some very good Chinese patent medicines. They (such as

Qinggong Shoutao Pills, Zhibao Sanbian Pills, etc.) have the effect of filling the essence, invigorating the kidney and nourishing the marrow[8].

3. Treat from the Spleen and Stomach

(1) The spleen and stomach are the postnatal forces that mainly support the body tissues after birth, and the spleen and stomach are the source of the body's qi and blood[9]. The spleen transports and transforms water and grains, transforms essence, qi, blood, and body fluid, and provides sufficient nutrition for human organs to maintain the normal function of the brain[10]. The brain is in a “high position”, and it all depends on the acquired spleen and stomach qi and blood. Weak spleen and stomach, deficiency of qi and blood, lack of nourishment for the brain, and symptoms of dementia.

(2) The spleen governs the transportation and transformation of water. The spleen can convert the delicious food eaten by the human body into the water needed by the body, and transport the subtle substances to the whole body to nourish the body tissues. Qi machine affects the nutritional intake of the brain, causing headache, dizziness, and coma.

(3) The spleen controls the blood, and the spleen controls the blood of the body. When the spleen is strong, there is a path for the human body's qi and blood; when the spleen is weak, the qi and blood biochemically have no source, the controlling force is weak, and bleeding occurs, the brain's nourishing blood decreases, dizziness, memory loss, and dementia.

(4) The stomach belongs to the Yangming meridian, the spleen and stomach are external and internal, and the spleen and stomach will produce pathological products for various reasons. Yangming has a fire to fry the body fluid of Yangming's stomach, and the blood easily gathers and loses water to become blood stasis. Blood stasis affects people's cognitive tissues and causes forgetfulness. Years of work, many years of diagnosis and treatment of patients, the big difference in eating habits now and the general characteristics of patients now verify the saying that spleen deficiency is full of phlegm and dampness. If the spleen is deficient, there will be more phlegm and dampness in the body. Phlegm affects the brain collaterals.

(5) Modification and subtraction of Guipi Decoction: “Jingyue Quanshu·Insomnia” states: “Exercise and thinking cause blood to be lost and spirit to be lost”. The prescription is composed of ginseng, Atractylodes, Astragalus, Licorice, Zao Ren, Polygala Radix, Poria, Longan, Angelica, Muxiang, etc. It has the functions of strengthening the spleen, nourishing the heart and calming the mind, and has a good curative effect in the treatment of VD syndrome of qi and blood deficiency[11]. Banxia Baizhu Tianma Decoction is a good prescription for treating dizziness caused by wind evil and disease evil phlegm. It has an Atractylodes, the prescription focuses on strengthening the spleen and removing phlegm, and treating the syndrome of phlegm-dampness block VD[12]. The Synopsis of the Golden Chamber mentions the use of Danggui Shaoyao Decoction to treat women's diseases because it can activate blood and nourish blood. In fact, doctors found that it can also strengthen the spleen and stomach, dispel dampness and drain water. The learning and memory of the elderly can increase the righteousness of the human body[13].

4. Treat from the Heart

(1) As far as the pulse is concerned, only if there is a heart, there will be a pulse, and if there is a pulse, there will be spirit. The heart is the leader of the internal organs. If the brain wants to work normally, it cannot do without the material basis: blood. In order for blood to function normally and reach the brain, three conditions are required: (1). Sufficient blood volume. (2). Powerful driving force (3). The road is unobstructed. The heart controls the blood vessels, which meets the first condition and has sufficient blood volume. The heart is the yang viscera, which releases the driving

force, promotes the operation of the blood, and provides the power for the operation of the blood. At the same time, it also avoids the accumulation of pathological products such as blood stasis and phlegm, so that the blood passage is unobstructed. “Jingyue Quanshu” said: “Qi and blood are extremely important to limbs, bones, skin, soul, etc.”. “Lingshu. Pingren Jigu” said: “Blood and profit, Qi is suitable for living.”

(2) Mei Jianwei and others said that Tianwang Buxin Dan and Buzhong Yiqi Decoction have made great achievements in the treatment of VD caused by heart qi deficiency[14-15].Kaixin Powder is a formula in “Qianjin Yaofang”. It has the function of delaying the symptoms of VD . Liu Yanting et al. [13-14] found that Kaixin Powder can significantly improve the intelligence of patients, and it can be used clinically[16-17].

5. Treating from the Liver

(1) The liver stores blood, regulates blood volume, and prevents bleeding. Liver blood is sufficient, the body is in a stable state, and everything is in order. When there is a problem with the liver and the liver blood is insufficient, the body does not have enough blood, the brain ischemia, coma, dizziness, etc. The function of the liver to regulate blood volume is reduced, and the brain cannot be given priority when the body is ischemia. Cerebral ischemia occurs when there is no blood in the brain for a short time. Liver qi is weak, unable to control the blood in the blood vessels, the blood flows freely, cerebral hemorrhage, cerebral hemorrhage occurs, the liver belongs to a positive organ of the human body, and the liver yang easily rises to the brain.

(2) Although people's emotions are controlled by the brain, they are also inseparable from the liver's dredging function. People's emotions mainly depend on whether the qi and blood are running smoothly or not, and the liver's dredging is mainly reflected in regulating the qi machine. When the Qi is smooth and the Qi and blood are calm, people will feel happy. Qi Qi is not smooth, Qi Qi is blocked, unhappy, depressed mood. At the same time, bad emotions can affect the function of the liver. There are more and more depressed patients in the society. In the final analysis, the pressure in all aspects is too great, which has become the last straw that overwhelms the human body's righteousness. Once bad emotions appear, a series of organ diseases will follow one after another. It is the brain[18].

(3) Wang Sulun and others believed that the liver's Qi mechanism is out of balance, affecting the production of liver blood, insufficient liver blood, and lack of nourishment for the heart. Tiaogan Qupi Granules are used to treat VD, which can nourish the liver and blood, eliminate phlegm and eliminate addiction, and improve brain forgetfulness. which cannot be calculated[19]. Shi Jiangfeng and other studies have shown that Shengsheng Powder can improve the cognition of VD patients, improve and even restore the ability of daily life[20-21].

6. Treating from the Lungs

(1) The lung manages human breathing by regulating Qi, and the lung exchanges the gas needed by the human body through its upper and lower dispersion, exhaling the turbid gas and inhaling the clear gas. That is, carbon dioxide is exhaled and oxygen is inhaled, thereby keeping enough oxygen in the brain. If the lungs are deficient, the gas is insufficient, and the brain is deprived of oxygen for 15 seconds, the gas will be exhausted and the life will end. The main body of the lungs controls the waterways of the human body, and the upper and lower powders of the lungs maintain the body's water and fluid metabolism well, avoid the production of pathological products such as blood stasis, phlegm turbidity, and cold condensation, and keep the body in a balanced and stable state [22].

(2) Xuanfei Jiangzhuo Recipe to treat vascular dementia, which is composed of aconite, ginseng, Shichangpu, almond, Suzi, French pinellia, Tianqi, and wine rhubarb. It does work[23-24]. For

example, the recipe for warming the lung and lowering turbidity is composed of aconite, codonopsis, licorice, dried ginger, rhubarb, and Tianqi. It starts from the lungs, regulates the body, improves the symptoms of the brain, and achieves very good results. It can become one of the VD treatments. Breakthrough[25].

7. Conclusions

Vascular dementia is the only known class of cerebrovascular disease that can be prevented by reducing its risk and improving prognosis. Therefore, its early treatment is very important and necessary. Western medicine treatment has limitations. Starting with traditional Chinese medicine is a hot spot at present, with unlimited prospects. At present, there are the following problems in the research of traditional Chinese medicine: lack of data, the credibility of the conclusion is questioned, lack of unity, and a hundred flowers are blooming. From the perspective of the medical theory of the motherland, we can accurately study every viscera, every prescription, every medicine, combine theory with practice, combine experimentation with clinical practice, strive to study the etiology and pathogenesis of VD Chinese medicine, and discover the advantages and characteristics of Chinese medicine. Prove the achievements of traditional Chinese medicine, let the world recognize the motherland medicine, and let the motherland medicine better serve all mankind.

References

- [1] Shan Yonglin, Liu Guohua, et al. Research status of vascular dementia [J]. *Medical Review*. 2017, 23(8): 1589-1592.
- [2] Wang Suifu. The effect of Xinjia Dihuang Yinzi on matrix metalloproteinase-9 in patients with vascular dementia. *Journal of Shaanxi University of Traditional Chinese Medicine*, 2015, 38(6): 39-40.
- [3] Li Chaozheng, Dong Ruiyang, Zhu Xueyan, et al. Research progress of mild cognitive impairment. *Chinese Journal of Gerontology*, 2015, 31(18): 534 1-534 5.
- [4] Zhang Xuewen. Discussion on the Syndrome and Treatment of Stroke Dementia *China Journal of Traditional Chinese Medicine*, 2000, 7(11): 1-2.
- [5] Wang Hao, Chen Min, Yu Kaifeng. The pathogenesis of senile dementia from the perspective of kidney deficiency. *Journal of Liaoning University of Traditional Chinese Medicine*, 2012; 14(3): 106-109.
- [6] Feng Yingying. Bushen Huoxue Jiannao Decoction in the treatment of 38 cases of vascular dementia. *China Traditional Chinese Medicine Science and Technology*, 2013, 20(4): 431-432.
- [7] Li Xuerui, Zhang US military. Observation of curative effect of Dihuang Yinzi in treating post-stroke vascular dementia. *Inner Mongolia Traditional Chinese Medicine*, 2016, 35(1): 22-23.
- [8] Wei Cuibai, Tian Jinzhou, Jia Jianping. Understanding and thinking about the theory of etiology and pathogenesis of traditional Chinese medicine for senile dementia. *Chinese Journal of Traditional Chinese Medicine*, 2005, 20(8): 496-498.
- [9] Wei Mengling. Study on the therapeutic effect of Bupi Yixin Decoction in the treatment of senile vascular dementia with deficiency of both heart and spleen [J]. *Journal of Cardiovascular and Cerebrovascular Diseases of Integrated Traditional Chinese and Western Medicine*, 2013, 11(6): 70-71.
- [10] Wang Guoqi, Zhao Ameng, Zhu Shuangyue. Effects of Guipi Decoction on behavior and learning and memory ability of senile depression model rats. *Chinese Journal of Gerontology*, 2013, 33(20): 5051-5053.
- [11] Wang Shengli. Banxia Baizhu Tianma Decoction and Changpu Yujin Decoction in the treatment of 69 cases of senile dementia[J]. *World Chinese Medicine*, 2011, 6(6): 491.
- [12] Quan Yixiong, Li Min, etc. Danggui Shaoyao Powder in the treatment of a case of acute thalamic dementia. *Journal of Guangzhou University of Traditional Chinese Medicine*, 2000, 17(4): 358-359.
- [13] Liu Wanli et al. Randomized parallel control study on the treatment of senile dementia by syndrome differentiation. *Journal of Practical Chinese Medicine*, 2013(17): 43-44.
- [14] Zhou Xiaoqing et al. Analysis of TCM Types, Syndrome and Treatment of Vascular Dementia. *Chinese Folk Therapy*, 2010(1): 56-57.
- [15] Liu Yanting, Cai Zhongming, Chen Yingzhu, etc. Observation on the efficacy of Kaixin Powder in the treatment of vascular dementia and its effect on serum Livin. *Shanxi Traditional Chinese Medicine*, 2015, 31(8): 14-16.
- [16] Liu Yanting, Cai Zhongming, Chen Yingzhu, etc. Research on the effect of “Qianjin Yaofang” and “Kai Kai San”

- on plasma ICAM in patients with vascular dementia [J]. *Clinical Journal of Traditional Chinese Medicine*, 2015, 27 (10): 1423-1425.
- [17] Qiu Chengxuan . *The role of social psychological factors, genetic susceptibility and their interaction in the process of cognitive aging*. *Chinese Journal of Behavioral Medicine and Brain Science*, 2012, 21(4): 295-298.
- [18] Wang Sulun, Wang Xuping, Chen Yu et al. *Effects of Tiaoganhuapi granules on the behavior of rats with vascular dementia and SOD, MDA and Ach in hippocampus*. *Zhejiang Journal of Traditional Chinese Medicine*, 2013, 48(1): 25-26.
- [19] Shi Jiangfeng, Ma Jian, Sun Juguang, et al. *Analysis of the efficacy of Shengsheng Powder in the treatment of 64 cases of vascular dementia* . *Jiangsu Medicine*, 2015, 41(21): 2569-2570.
- [20] Shi Jiangfeng, Ma Jian, Guo Chunhui, etc. *Efficacy and mechanism of Shengsheng Powder in the treatment of vascular dementia model rats*. *Chinese Journal of Gerontology*, 2017, 37: 1341-1344.
- [21] Tang Nong, Huang Liwu, etc. *Thoughts on the treatment of vascular dementia from the perspective of the lung*. *Journal of Guangxi University of Traditional Chinese Medicine*, 2004, 7(4): 1-3.
- [22] Wang Qingbi, Wu Lin, Zhao Qingshan, et al. *Effects of Yifei Xuanfei Jiangzhuo Recipe on behavior, hippocampal pathology and neuronal apoptosis in rats with vascular dementia*. *Guangxi Traditional Chinese Medicine*. 2016, 39(2): 67-70.
- [23] Wang Jinping, Tang Nong, Hu Yueqiang, et al. *Effects of Yifei Xuanfei Jiangzhuo Recipe on hippocampal ultrastructure and cAMP/PKA-CREB signaling pathway in vascular dementia rats*. *Liaoning Journal of Traditional Chinese Medicine*, 2016, 43(2):404-407.
- [24] Wu Lin, Tang Nong, Ma Xiaomei, et al. *Effects of Wenfei Jiangzhuo Recipe on learning and memory and the expression of Caspase-3 protein in vascular dementia rats*. *Chinese Journal of Gerontology*, 2017,37(16):3922-3924.
- [25] Hu Yueqiang, Lai Jingjing, Wang Tinglong, et al. *Effects of Wenfei Jiangzhuo Recipe on apoptosis of hippocampal neurons in rats with vascular dementia*. *Zhonghua Journal of Traditional Chinese Medicine*, 2017, 32(4): 1804-1807.