

Summary of Dihuang Yinzi Treatment of Hepatorenal Yin Deficiency Type Apoplexy

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Keywords: Rehmannia Decoction Zi, Stroke, Liver Kidney Yin Deficiency, Liu Hejian Pharmacological Study

Abstract: Rehmannia yinzi is Liu Hejian's name, indications for the stroke, is now more by later doctors for the treatment of cerebrovascular disease stroke, liver and kidney Yin deficiency type. This article discusses the history of apoplexy, the application of rehmannia glutinis in ancient and modern times and the experimental and clinical research.

1. Historical Evolution of Stroke Theory

Apoplexy is a kind of complicated and complicated disease of traditional Chinese medicine, which is common in middle-aged and elderly people. It has the clinical characteristics of high incidence, high disability rate and high mortality. Based on the characteristics of modern People's Daily life and the food characteristics of fat and sweet taste, the age of stroke has been young. About stroke, ancient Chinese books have long been recorded, "Stroke Calendar Section" [1] There is a cloud: "evil lies in collateral, skin is not benevolent, evil lies in the classics, namely heavy and numerous; When evil enters the inside, he does not know the man; when evil enters the viscera, the tongue stumbles and the mouth salivates." And before jinyuan, physicians thought that stroke as the "wind", the basis of the theory is derived from huangdi neijing, its cloud "of blood and qi, and walk in the" "great anger, he breathed his last, and blood Wan in", and put forward the hemiplegia in this "Fried jue" BoJue disease ", "the view jinyuan period doctor thought that stroke of modern internal injuries, closely related to exogenous pathogenic wind. Synopsis of the Golden Chamber ·Disease pulse syndrome and Treatment of Apoplexy Calendar Section Fifth [2] Further refined put forward the evil "in the zang" "in the fu" "in the meridian" "in the luo", and fengyin soup, Hou's black powder and other prescriptions for the treatment of stroke. To the Sui and Tang Dynasties [3] Chao

Yuan fang also had the theory that "wind evil enters the brain". He believed that the cause of apoplexy was mainly due to deficiency of qi and blood, internal wei qi is not solid, and external wind evil. The theory evolved from simple external wind to internal and external co-morbidity. The tang Dynasty medical book "Bei Ji Jin Jin Yao Fang" also discusses from "outside and inside" [4] Sun Simiao said that "stroke is usually caused by heat" and "the person affected by the wind is hot". He also named zang-fu organs and the four seasons of wind, such as "liver wind", "heart wind", "lung wind", "kidney wind" and "spleen wind", and created the size of the life-sustaining soup is still used today [5]. Liu Wansu followed the theories of "all violent and strong winds belong to wind" and "all winds fall dazhly and belong to liver", and put forward that all five zhi and six qi can melt fire, which was deeply influenced by Sun Simiao's thought of internal injury of apoplexy as the main heat [6], the first theory of heat pole wind, thought that the key of apoplexy is heat. He pointed out in his book "Wu Wen Disease mechanism Qi Should protect life set · Apoplexy" that "all patients suffering from liver and wood wind should take heat as the base and wind as the standard", pointing out that the key pathogenesis of apoplexy lies in internal wind, creating the first theory of pathogenesis of internal wind. He also thinks that joy, sorrow, sadness and fear, and excessive five thoughts can turn off the fire, pointing out that emotion is also a major cause of apoplexy. Hyperactive heart fire and deficiency of kidney water are insufficient to nourish Yin and reduce fire. Kidney deficiency is also the key factor of apoplexy. Liu Wansu's thought of the middle wind was relatively complete, which had a profound influence on the treatment of apoplectic diseases of later generations. Taking Ye Tianshi in qing Dynasty as an example, he established the theory of "Yang internal wind" based on Liu Wansu's theory, which believed that the internal movement of liver wind was "the change of Yang qi in the body". In addition, other great doctors also made achievements in the pathogenesis and treatment of apoplexy, Zhang Element advocated six channels of syndrome differentiation and treatment; Zhang Congzheng said from "Jue Yu sheng Feng" that his cloud apoplexy "occurs in December every year, after the middle of major Cold, at the turn of March and April, at the turn of September and October", indicating the relationship between time rhythm and apoplexy. Li Dongyuan believed that "apoplexy originates from qi deficiency" and argued that "qi deficiency produces wind", that all diseases are caused by spleen and stomach. The older the elderly are, the more deficient spleen and stomach they are, the more likely they are to have apoplexy. He proposed the relationship between apoplexy and age factors. Modern doctors' views on stroke are adhering to the ideas of the previous generations of doctors, pioneering and innovative, each with its own views. Professor Lu Yongchang put forward "cure is better than prevention" and summarized the four prevention and treatment methods of stroke, such as zhen Gan Qianyang, professor Zhang Xuwen put forward "reversible stroke", the clinical symptoms are mostly used to promote blood circulation and remove stasis and other treatment of precursors of stroke, and carried out the classification and summary of four stages and six syndromes of stroke. As the first of the four difficult syndromes in internal medicine, stroke is also the highest incidence of internal diseases in China. Its treatment and prevention have been attached importance to by many doctors and many theories. Stroke is located in the brain and has close relationship with heart, liver, spleen and kidney. Its basic pathogenesis is the imbalance of Yin and Yang, and qi and blood disorder is committed in the brain. Therefore, the treatment needs to nourish the liver and kidney, qianyang calm wind, remove blood stasis and phlegm. And long illness into deficiency, tonifying liver and kidney is the most important part of stroke treatment, as shown in Figure 1,2 and Table 1.

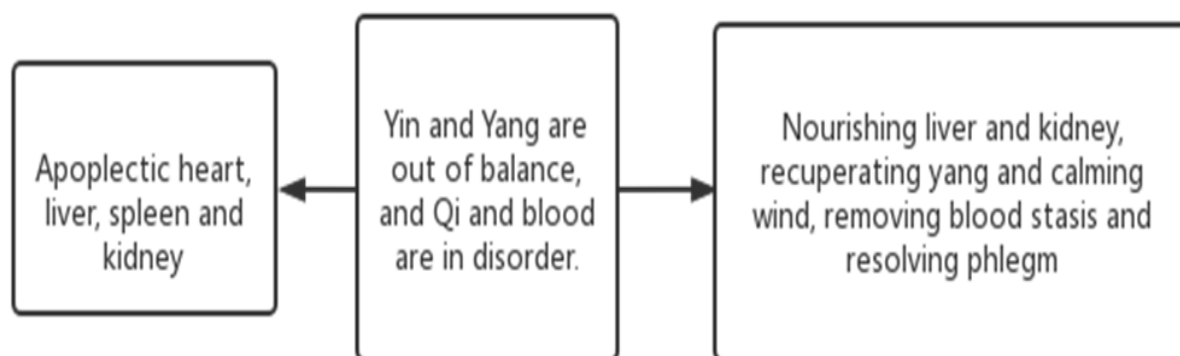


Figure 1. The key to treating kidney deficiency

Table 1. Analysis of incidence rate of stroke

Particular year	Incidence rate
2002	189/100000
2007	221/100000
2011	234/100000
2013	279/100000
2017	226/100000

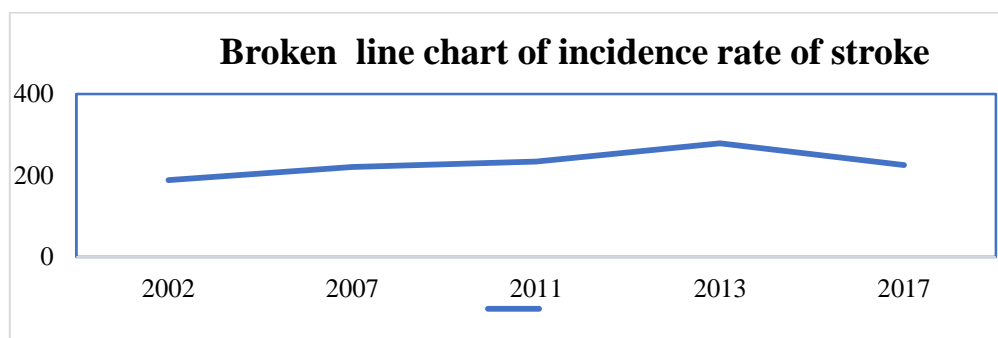


Figure 2. Analysis of incidence rate of stroke

2. Liver and Kidney Yin Deficiency is the Pathogenesis of Apoplexy

According to traditional Chinese medicine, the main pathogenesis of ischemic stroke is "wind, fire, phlegm, qi, deficiency and blood stasis", among which "deficiency" is the most important. Among the five organs, liver and kidney are most affected by stroke, and deficiency of liver and kidney Yin is the pathogenesis of stroke. There are many causes of apoplexy, but they can cause deficiency of liver and kidney Yin. [7] Causes of stroke, Zhang Jingyue in the JingYue encyclopedia, the wind, said: "every disease this person, how to not care, or medicinal, or excessive colour, the first five zang-organs injury really Yin, Yin deficient in before and after Yang loss in, Yin and Yang pan on in, so that the loss of Yin and Yang, nutrients don't hand over, so suddenly, dote died but fall". Stroke is a senile disease, and good in the elderly, "Plain ask · Yin and Yang should be like a big theory" has said: "over 40 years old, and Yin qi from half". Therefore, stroke is mainly affected by liver and kidney. In terms of physiology and pathology, the liver and kidney are breeding and influencing each other, with "liver and kidney homology" and "edecane homology". As a result, both liver and kidney are damaged. Stroke involving the kidney is the same as liver, and liver is the

same as kidney. Deficiency of liver and kidney Yin is an important pathogenesis of apoplexy, just as the "Yellow Emperor neijing" in the cloud: "Women qiqi, Ren pulse deficiency, Taichong pulse decline less, Tiancui exhaustion, tunnel imperforation, so bad shape and no son also. Men eight eight, Tianguai exhaustion, less fine, kidney failure, body are extremely, then tooth hair." During the period of "July 7th" and "August 8th", it is a dangerous period with high incidence of apoplexy. Second, most of the early stroke patients have long-term hypertension, diabetes and so on, and the pathological basis of these diseases is mostly Yin deficiency, long-term disease Yin fluid loss makes Yin deficiency more serious; third, synopsis of the Golden chamber has a cloud: "Where the taste of food to raise in health, food is harmful, but can be harmful... If it is appropriate, it will benefit the body, and if it is harmful, it will become disease, and this will lead to death." Modern life rhythm fast, bad living habits, pressure big, more do not like work and exercise, mind you, fat GanHou flavour, stay up late, easy to modern disorders such as pressure and jet stasis, long yu is the fire of Yin, mind you, fat GanHou flavour ShengTan wet, block blood run into virtual into stasis, more be fond of alcohol, tobacco, spicy isothermal drying product of alcohol, tobacco, spicy product has a warm dry sex, Easy to burn fluid consumption, damage Yin jin. And daily life is abnormal, often stay up late, drunkard, smoke, mood fluctuates greatly also easy dark consumption fine blood, burn Yin Jin, cause liver and kidney insufficiency thereby." Element ask · angry tong Tian theory" said: "Yang, zhang", that is, refers to the human Yang, if the disturbance is too much, the excitement is not collected, or because of overwork, physical and mental loss, so that Yin blood dark consumption, xu Yang wind, and stroke. Therefore, liver and kidney Yin deficiency throughout the stroke disease, and nourishing the liver and kidney is the treatment of stroke disease, as shown in Figure 3.

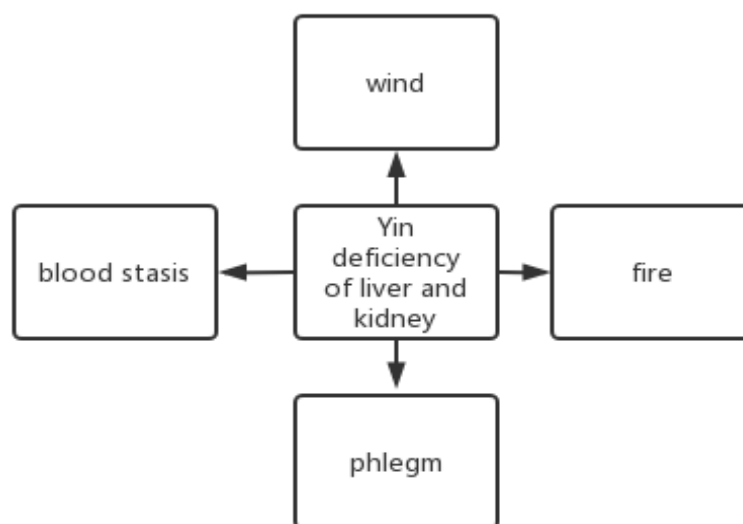


Figure 3. The main pathogenesis of ischemic stroke

3. Nourish Liver and Kidney, Nourish Yin and Essence

Rehmannig Yinzi "Xuan Ming on the party", indication, the original description of "kidney qi deficiency jue, not out of the language, foot waste." In modern times, it is mainly used for the treatment of stroke and its sequelae. A large number of clinical and pharmacological studies have proved that Dihuang Yinzi has a good effect on the stroke of liver and kidney Yin deficiency. The

main drugs of tonifying kidney and filling essence in prescription were ripe rehmannia glutinosa and cornus officinalis. In addition, it uses cistanche and Euphorbia officinalis to warm up and strengthen kidney Yang, which are shared by the four, and both Yin and Yang are replenished at the same time, meaning that "Yin and Yang are born and springs are inexhaustible, while Yang and Yin help each other and biochemistry is infinite". The aconite of daxin and the cinnamon of Wenbu are used to reach the temperature to help the lower yuan and absorb the power of fuyang. Dendrobium, Ophiopogon, schisandrae can sour convergence, nourishing Yin essence, collect Yin liquid, can make Yin and Yang harmony, in order to smooth, but also restrict cinnamon, aconite of warm dryness, in order to achieve the original intention of nourishing Yin; Kidney water deficiency failure because of hyperactive heart fire, burning practice Yin fluid, so that Yin fluid can not be on the system of empty fire, and liquid into phlegm, blocking the orifice, the common acorus, polyzhi, cocos take communication heart kidney, heart kidney intersection, Yin Pingyang secret, spirit is and. Take a little mint light up and yuyu, receive its endless evil, so that the wind does not stay; Ginger, jujube sweet and mild, to help zhengqi to quxie, and its camp wei, as adjuvant to make medicine. The combined use of all medicines, tonic and not stay evil, warm but not hot, a total of nourishing kidney Yin, tonifying kidney Yang, opening the work of phlegm, so that the lower yuan to warm and nourishing, fuyang to absorb, heart and kidney traffic, opening the phlegm, all diseases self-healing. In ancient prescriptions, rehmanniae is the main medicine, which can be taken immediately after several times of decocting. At any time, the light and clear qi of rehmanniae can be taken to dredge the meridians and channels by lifting and lowering the body and draining the bones of the limbs, so as to make Yin and Yang, which is different from decoction decoction decocted in water and taken at once, so that its medicinal power can be fully developed, as shown in Figure 4.

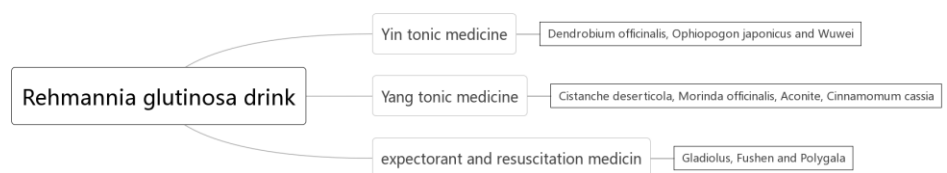


Figure 4. Effect of rehmanniae glutinosa drink

4. Modern Pharmacological Research

Rehmannia decoction zi is composed of cooked rehmannia officinalis, Morinda officinalis, cornus officinalis, cistanche deserticola, aconite, schisandra fruit, cinnamon, Poria cakahoe, Radix ophiopogonis and Radix polygala. It is a common prescription used by modern doctors to treat stroke with deficiency of liver and kidney Yin. Modern pharmacological studies also show that all kinds of drugs in dihuang Yinzi have a unique effect on apoplexy. Its main medicine rehmannia glutinosa [8] It is rich in iridoids, monoterpenes and glycosides. Up to 33 kinds of iridoids have been isolated and identified, among which catalpol, the first isolated iridoid glycoside, is the main active component of rehmannia glutinis. Its main clinical effects are hypoglycemic, diuretic and laxative, water-soluble ingredients can be anti-inflammatory, liver protection; the fat-soluble compounds are anti-hypoxia, and water and alcohol extracts are immunomodulatory. For the blood system, 50% ethanol extract (JR-EXT, 200mg kg⁻¹, Po) from rehmannia glutinis can prevent various chronic diseases that induce and obstruct peripheral microcirculation by improving hemorheology. For central nervous system, rehmannia glutinosa has significant inhibitory effect on central nervous system. Catalpol has been shown to reduce H₂O₂-induced apoptosis in PC12 cells in vitro, protect hippocampal CA1 neurons from death and significantly reduce cognitive

impairment through antioxidant capacity, and effectively attenuate LPS-induced microglial activation and dopaminergic neurotoxicity. Other studies have shown that *Rehmannia glutinosa* has the potential to treat and prevent dementia. The experiment proved that [9] Dogwood has neuroprotective activity, significantly inhibiting reactive oxygen species (ROS) production, lactate dehydrogenase (LDH) release, and significantly increasing gene expression of antioxidants and neuronal markers such as superoxide dismutase, catalase, and brain-derived neurotrophic factor. The neuroprotective activity of furfural B in *Cornus officinalis* was confirmed by the analysis of furfural B. Another study found that the active component of *Cornus officinalis* had neuroprotective effect on MPTP-induced PD model mice. [10] It has the function of nourishing qi of liver and kidney. Studies have found that the active components of this product are phenylethanolic glycosides, among which echinoside is the main component. It can enhance the hypothalamic-pituitary-adrenal function and promote the release of relevant transmitters and hormones in vivo to play the role of tonifying kidney essence, and also has the role of protecting cerebral ischemia. Other studies have shown that [11], *Cistanche* total glycosides can protect cerebral ischemia and cerebral ischemia-reperfusion injury. Animal experiments showed that it can protect cerebral ischemia and cerebral ischemia reperfusion injury by decreasing stroke index, percentage of cerebral infarction area, malondialdehyde content and nitric oxide synthase activity in brain tissue, and increasing superoxide dismutase activity in brain tissue. *Rehmannia yinzi* in its medicine such as *yuanzhi* [12] It contains polyphenol, which has a protective effect on nerves [13] The polysaccharide has good anti-oxidation and anti-hypoxia effect, and can prevent aging. Network pharmacology studies proved that *Dendrobium* [14] *Dendrobium* is a sesquiterpenoid alkaloid with anti-inflammatory, antioxidant, anti-aging and immunomodulatory activities. *Dendrobium* has certain effects on cerebral ischemia and reperfusion, and can be used to treat cerebral ischemia through multi-target and multi-pathway. Chen Caiying and other experimental studies proved that *Morinda officinalis* [15] Water decoction has anti-oxidation and anti-fatigue effect, which can eliminate free radicals, inhibit lipid peroxidation damage, delay aging, reduce oxygen consumption of the body in the state of hypoxia and prolong the duration of hypoxia resistance by supplementing exogenous antioxidant substances or promoting the body to produce endogenous antioxidant substances.

5. Clinical Application of Liver-Kidney Yin Deficiency Apoplexy

The pathogenesis of liver and kidney Yin deficiency apoplexy is actually liver and kidney deficiency damage and liver wind internal movement. Disease for a long time, old age, exhaustion of liver blood and kidney essence, deficiency of Yin essence, loss of liver Yang, into the internal wind, in a word, is "the change of Yang qi in the body". *Dihuang yinzi* is suitable for liver and kidney Yin deficiency, Yang feng hyperactive syndrome type. Its medication 15, it is generous. Generous medicine flavor is numerous, the treatment method is diverse, the Qing Dynasty Ye Tianshi good to dismantle the prescription, into the "medicine group". According to the method, *Rehmannia yinzi* can be divided into three drug groups, which are "Yin tonifying medicine", "Yang tonifying medicine" and "phlegm-dispelling medicine". Among them, cooked *Cornus officinalis* nourishing kidney and filling essence, accompanied by *Dendrobium*, *Maopondong* and *Schisandrae* nourishing Yin collecting liquid, strong water *jihuo*, this is the Yin tonic medicine group; *Cistanche deserticola* and *Euphorbia officinalis* can warm and strengthen kidney Yang, while aconite and cinnamon can warm and nourish lower Yuan, absorb floating Yang, and ignite fire to return yuan. Stone calamus, *Fu Shen* and *yuanzhi* traffic heart and kidney, *kaiqiao* phlegm medicine group. As recorded in "Neijing", "The shape of the body is warm to qi, and the essence of the body is deficient to taste." "Clinical guide medical case · off" and cloud "Yin and Yang do not continue, critical period to speed. *Rehmannia yinzi* pole is. Ye's prescription for nourishing the liver and kidney,

clearing the upper and lower parts of the body, nourishing Yin to fill the Yin and eliminating fengyang is a wonderful recipe for stroke.

Modern doctors also use this prescription, He Jianguo [16] The total effective rate was 70.83% in the treatment group and 47.92% in the control group, the difference between the two groups was significant ($P < 0.05$). It is proved that Dihuang Yinzi has significant effect on stroke of Yin deficiency type. Zhangsong [17] Treatment such as using digitalis YinZi Yin deficiency type stroke sequela aphasia, found in the study of radix rehmanniae YinZi tonga subtraction with conventional western medicine therapy effective rate was 86.67%, the conventional western medicine treatment effective rate was 73.33%, prove rehmannia YinZi for Yin deficiency type stroke has good curative effect, and the group can obviously improve patients' reading, communication, ability to communicate, repeat, etc, Improve prognosis and prevent recurrence. Wu Weilin [18] 24 clinical patients were taken as samples and the cure rate was 96%. Lee kind of ty [19] The total effective rate of the treatment group was 93.1%, significantly better than that of the control group (65.0%).

In summary, through a large number of literature, clinical and experimental studies prove that Dihuang Yinzi has a good effect on the treatment of stroke with liver and kidney Yin deficiency [20]. As an ancient recipe, rehmanniae yinzi has been used up to now, which shows that its effectiveness is beyond doubt. The incidence of stroke in modern people is increasing year by year, while applying modern medicine, we should also pay attention to the application of TCM. Rehmannia yinzi not only has a unique curative effect on stroke, but also has a role in other diseases such as dementia and Parkinson's disease. Especially for cerebrovascular sequelae period of all kinds of symptoms, combined with acupuncture treatment, have a significant effect.

Funding

This article is not supported by any foundation.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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