

# *Treating Diabetic Peripheral Neuropathy from "Fengxue Meridian"*

Wenmin Wang<sup>a</sup>, Zongliang Song<sup>b,\*</sup>, Tingwei He<sup>c</sup>

*Shaanxi University of Chinese Medicine, Xianyang, China*

*<sup>a</sup>1337619978@qq.com, <sup>b</sup>songzongliang018@163.com, <sup>c</sup>1404401408@qq.com*

*\*Corresponding author*

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**Abstract:** Diabetic peripheral neuropathy is a common chronic complication of diabetes. It is often the early risk factor for diabetic foot and lower limb vascular lesions. Seriously affecting the quality of life of patients, its pathogenesis remains unclear [1]. The clinical manifestations are "pain", "numbness" and "paresthesia". In Chinese medicine, DPN belongs to the categories of "dampness and paralysis", "numbness" and "blood paralysis". Is the thirst quenched by the day, Depleting qi and blood, Causes weakness of qi and blood, Blood deficiency moves the wind, Wind guest blood stasis, Disorders caused by malfunctioning meridians, The clinical application of nourishing qi, nourishing blood, channeling menstruation, calming wind, activating blood and clearing collaterals has significant curative effect. In this paper, the etiology, pathogenesis, treatment and medication characteristics of TCM are discussed dialectically from the perspective of "fengxue meridian".

## 1. Introduction

Diabetic peripheral neuropathy is the most common chronic complication of type 1 and type 2 diabetes, The incidence can be as high as 90 percent, And the longer the course of the disease, the higher its incidence, The main clinical manifestations are numbness and pain of bilateral limbs, cold sense of ant walking, muscle weakness and atrophy tendon reflex weakening or disappearing. Usually a symmetrical distribution, typically glove or sock set type distribution, Physical examination showed that tendon reflex was hyperactive in the early stage, weakened or disappeared in the later stage, and the vibration sensation of tuning fork was weakened or disappeared, Electrophysiological examination can detect early deceleration of sensory and motor nerve conduction velocity [2]. At present, western medicine often uses lipoic acid or mecobalamin and other nutritional nerve symptomatic treatment, There is no specific therapy. Combined with traditional Chinese medicine in clinical treatment of DPN, the clinical symptoms of patients have been effectively improved, and can effectively delay the progression of their disease.

Diabetic peripheral neuropathy belongs to the category of traditional Chinese medicine to relieve thirst, Arthralgia of thirst disease, numbness, blood numbness and other diseases [3]. "Orchid Room Secret" has a thirsty patient "upper and lower teeth are numb. The tongue is strong, swollen and painful, the limbs are impotent, and the front Yin is like ice [4]", Which describes the disease

"swelling, pain, impotence" characteristics, It is also recorded in the Puji Fang, It is believed that DPN patients will be accompanied by clinical symptoms such as "hand and foot pain, kidney elimination and dry mouth, eye acerbity and vaginal fistula, urine count" [5], The causes of arthralgia syndrome are long course of arthralgia, injury of blood and qi, loss of limb meridians. The main pathogenesis of this syndrome is "blood deficiency, wind movement, loss of meridians and collaterals".In view of its pathogenesis, the clinical treatment of DPN should be Yiqi, nourishing blood and channeling meridian, calming wind and activating blood and channeling collaterals, and the curative effect is remarkable.

## 2. Overview of DPN Etiology

For patients with thirst disease, due to lack of innate endowment, excessive overwork and long-term maltreatment, it has taken a long time to be diagnosed. In addition, patients usually do not eat properly, tend to be overweight and sweet, and suffer from long-term relapse, which damages the spleen and stomach and leads to the loss of spleen and stomach operation. The Spiritual Pivot · Determinate Qi says, "The middle jiao receives qi and takes juice, while the red is blood [6]. The essence of transporting water and grain of the spleen and stomach in the middle jiao is put forward, and the essence is transformed into red blood. When the spleen and stomach are damaged, the blood can be insufficient in metaplasia. "Qianjin Yaofang · Quench thirst" points out: Drink overlooking the excessive, Chew Ze sauce, don't choose the acid salt, for months and years..... The five internal organs dry, the wood and stone are still dry, how can one not be thirsty [7]? Patients with thirst reduction suffer from long-term diet failure and years of damage to the spleen and stomach, resulting in the spleen and stomach transport, which is acquired from the spleen and stomach, the source of qi and blood biochemistry, and the lack of biochemical sources. In addition, thirst reduction leads to sugar paralysis and disconnected veins, so we can see the loss of nourishment of the meridians and collaterals and numbness of the limbs [8]. In addition, a long time to quench thirst, a long illness consumes qi and injures blood, which weakens qi and blood, "Plain question · Cite pain Theory" article said, The blood, the god of man, The spirit of people depends on their qi and blood, Qi and blood exuberant Jing Wang God Qing, Qi and blood consumption injury, then all diseases by birth, "Su Qing And Lifting Pain Theory"said, Blood deficiency, blood deficiency pain[9], It is suggested that the blood has the function of nourishing and nourishing the whole body, THE veins are empty, the blood deficiency is lost and nourished, the limbs are numb, the skin is wrong, the blood deficiency is stasis, then the limbs are numb, pain and other discomfort, On the other hand, Wang Shixiong believes that Camp blood consumption injury, internal wind to move [10], It is suggested that the long illness consumes the Ying blood, and the blood deficiency moves the wind in the veins, Internal movement of deficiency wind, blood stasis of Fengke, blood stasis of vein obstruction, leading to body pain and muscle tremor, "SuQin Wind Theory"said The wind, good and number of changes, cou rationale open is sprinkled cold, closed is hot and stuffy..... Its heat also, then the elimination of muscle..... The atmosphere and the sun come in... Related to Wei Qi, its way is not good, so the muscles are angry and have choices, Wei Qi is coagcoaged but not good, so the meat is not benevolence [11], The deficiency wind moves inside, then see limb numbness, muscle fibrillation, hand and foot arrest is urgent, pruritus, accord with the main symptom of diabetic peripheral neuropathy, From the above can be seen that the thirst for a long time, consumption of qi and blood, blood deficiency loss of nutrition, blood does not nourish collaterals, that is, numbness and pain in the limbs; However, blood deficiency produces wind, which moves in the empty wind and blood stasis in the wind, which means skin itching and ant movement. Therefore, the main etiology and pathogenesis of DPN is due to blood deficiency and wind movement and loss of meridians and collaterals.

### 3. The Underlying Pathogenesis of DPN is Blood Deficiency and Wind Movement

#### 3.1 The Relationship between Wind and Blood and Meridians

Meridians are the routes that run qi and blood, connect zangfu organs, and run through the upper and lower parts of the body. Meridians criss-cross and network the whole body [11], It runs Qi and blood, coordinates Yin and Yang, and keeps the body in harmony and balance. The health of the human body is closely related to the smooth flow of meridians, and the traditional Chinese medicine believes that qi and blood are the basic materials of the human body and the material basis for physiological activities of organs such as zangfu organs and meridians. Meridians have the effect of "carrying qi and blood, camp Yin and Yang, decide life and death, and treat all diseases". It is precisely by running qi and blood through meridians that qi and blood can irrigate and nourish limbs. Professor Zhu General Xiang, an expert on meridian science, made a modern scientific observation and confirmed that the meridians are the channels of qi and blood [12], and the meridians run through the upper and lower organs, communicate with the zangfu organs, infiltrate qi and blood to nourish the whole body, and qi and blood reach the extremities through the meridians, playing the role of cultivation and irrigation. Meridians run qi and blood, also through qi and blood feeding, and when the patient thirst for a long time, qi and blood deficiency, meridians rong, increasingly impotent and weak do not need, meridians run not smooth, blood loss and lead to limb numbness, pain, even win soft weakness, muscle atrophy and other diseases, and wind guest complex, see muscle tremor, skin ants and other diseases. Qi and blood deficiency, meridians disrong, and blood deficiency wind movement, wind customer blood stasis, choroid dysnourishment, resulting in poor meridian operation, limb joints are difficult to irrigate and nourish, then see "hemp" "pain" "cold" "wei" and other discomfort, Therefore, in the treatment of DPN, it is necessary to link wind and blood with meridians, on the basis of nourishing qi and nourishing blood, calming wind and activating blood, smooth meridians and nourish limbs.

#### 3.2 Blood Deficiency - Loss of Meridians

The cause of this disease is a long time of thirst paralysis, consumption of qi and blood injury, qi and blood weakness, Difficult Passages: Twenty-Two Difficulties said Blood has the power to nourish, Blood has the function of nutrition and nourishing the whole body, Magic Pivot: Ben Zang said The meridians, therefore, carry blood qi and camp Yin and Yang, moisten muscles and bones, and strengthen joints [13], The meridians run qi and blood to viscera and extremities. When qi and blood are vigorous, they can nourish muscles and bones and nourish muscles. When qi and blood are deficient, meridians are disgraceful, qi and blood run unsmoothly, and limbs and limbs are lost, DPN related symptoms such as "numb", "impotence", "cold" and "BI" can be seen, In addition, the theory of traditional Chinese medicine clearly puts forward that if the meridian is not glorious, the pain and discomfort of the limbs can be seen. Clinical guidelines medical records said that At the beginning of the disease in the meridian, long patient collateral, by the main gas, collateral blood, According to Wang Xugao's Medical Records in traditional Chinese medicine: After a long time of quenching thirst, my hands and feet are numb and my limbs are as cold as ice [14], The course of thirst for a long time, consumption of qi and blood, long illness injury and meridian, resulting in poor movement of qi and blood, qi deficiency is unable to promote blood to the extremities, blood deficiency can not nourish the extremities, then visible limb numbness, lift weakness, warm function is reduced, then see cold ends, dry skin, hair is not prosperous, limb numbness, adverse movement; Therefore, in the treatment when the qi nourishing blood through the meridians, blood to nourish, body meridians usually run.

### 3.3 Wind Movement and Choroidal Stasis

Qi and blood are weak, blood deficiency generates wind, According to the "Plain Questions: Yin and Yang should be like a Great Theory", "When the wind is vigorous, it moves". If the internal movement of deficiency wind, the tremor and numbness of limbs, the urgency of hands and feet, the beating of muscles, the change of good deeds of wind, the wandering, the itching of skin, the sense of ant movement, the movement disorder, In Plain Question · On Wind, it is said that "the wind is the long of all diseases" [15]; Synopsis of the Golden Chamber (Synopsis of the Golden Chamber) believes that "the choroid is empty, and the wind and evil are driving the deficiency" [16]. Thirst for a long time, deficiency wind internal movement, and injured the choroid, the choroid is empty, deficiency wind internal movement, wind customer blood stasis, resulting in the choroid dystrophy, muscles and bones do not grow, muscle tremor, walking instability, and the theory of traditional Chinese medicine put forward "no general rule of pain", wind customer blood stasis, stasis of the choroid, that is, visible limb pain, Ming·Zhang Jiebin's Jing Yue Complete Works · Non-wind · Treatment of non-Wind diseases recorded: "Non-wind numbness and other diseases, because its qi and blood are not, so there is no pain or itching. Qi deficiency is numbness, blood deficiency is wood, numbness [17]" The wind evil guest in the choroid, qi and blood do not run to the limbs, then see limb numbness. In addition, the wind wandering, the disease in the skin, skin itching, ants feel uncomfortable; Wind active, wind meridians, there will be hand, foot, tremor, numbness, urgent, so in the treatment when the wind, blood circulation and collaterals, wind, then the context can be eased, muscles and bones to be stable.

## 4. Treatment

The pathogenesis of DPN is based on the deficiency of qi and blood, and the blood stasis of wind and guests is the standard. Therefore, the treatment of DPN should be based on reinforcing its deficiency and reducing the fact. Qi and blood deficiency mainly; The main purpose of tonifying qi and blood is to nourish qi and blood through meridians. The main purpose of Fengke blood stasis is to relieve wind and activate blood to pass its collaterals stasis. If both of them are severe, the specimens should be treated together to achieve the fundamental treatment of DPN.

### 4.1 Nourishing Qi, Nourishing Blood and Channeling Meridian

The pathogenesis of DPN is characterized by "deficiency of Qi and blood". According to traditional Chinese medicine theory, Qi and blood sufficient can pass through its meridian and nourish its skin [18], Therefore, the disease is mainly in Yiqi nourishing blood and circulating collaterals, qi can produce blood, adding supplementing qi drugs when supplementing blood, qi is strong, blood is sufficient, qi can carry blood, qi is sufficient and vigorous, qi machine modulation smooth, can promote blood to extremities; Nourishing blood focuses on invigorating blood and activating blood[19]. Blood Rong is the meridian Rong, and activating blood is the meridian through, which can solve the discomfort of limb weakness, numbness, pain, chill and so on. Among the commonly used drugs for replenishing qi and nourishing blood in clinical treatment of DPN, Astragalus membranaceus and Codonshen can not only accelerate the effective circulation of blood, but also have the effect of removing blood stasis without injuring the right side. Angelica sinensis, salvia miltiorrhiza, peach nut, safflower and paeony are used together to remove blood stasis and promote blood circulation. Both Jixueteng and Papaya have the effects of promoting blood circulation, promoting collaterals and relaxing tendons[20]. Niuxi can promote blood flow, promoting blood circulation and promoting collaterals and promoting joints. And according to the modern pharmacology study angelica, radix paeoniae rubra, has to dilate blood vessels and improve

circulation effect, can increase peripheral blood vessels of body tissue, improve the clinical symptoms such as numbness, and clear the modern pharmacology, supplement qi and t2dm method can play a role on the regulation of neural function good, and for the improvement of blood circulation, reduce blood viscosity, promote tissue repair, It has a significant effect on lowering blood glucose and improving diabetic peripheral neuropathy.

#### 4.2 Calming Wind, Activating blood and Channeling Collaterals

For a long time, due to the delay of the disease, repeated attacks, resulting in qi and blood deficiency, blood deficiency and wind, deficiency and wind internal movement, wind and blood stasis, meridian block, onset of glucose Bi, glucose BI is common limb numbness and skin nourishing, muscle and pulse not shu, tight clonus, consistent with the clinical symptoms of DPN, Therefore, in the treatment of DPN, drugs for relieving wind and activating blood circulation are selected to clear collaterals. *Gastrodia gastrodiae* and *Unguentum unguentum* are commonly used in the clinical treatment of DPN, which have the effects of relieving wind and ending spasmodic, removing wind and clearing collaterals. "Compendium of Materia Medica" said: "*Gastrodia gentium* is called" ding Fengcao ", for the treatment of wind god medicine ", according to modern pharmacology research has analgesia, improve microcirculation, improve the body hypoxia condition, the effect of silkworm on lowering blood sugar, improve microcirculation is significant; Scorpion, centipede, dragon, zombie silkworm has the effect of soothing the wind and activating blood, dredging collars and relieving pain, and all of them are insect drugs. Traditional Chinese medicine believes that insect drugs are "flesh and blood of the feeling", "walking through the thing", in breaking blood stasis, dispelling wind and relieving itching, search wind dredging collars has a significant role. Wang Xueying et al. [21] extracted plasminase-like fibrinolytic components from *Lumbricoides*, which can improve microcirculation, reduce blood viscosity and dissolve thrombus [22]. In clinical practice, the effect of antispasmodic drugs on DPN is very rapid. The possible mechanisms of these drugs are to improve peripheral blood circulation of extremities, increase blood flow, reduce blood viscosity, and nutrition peripheral nerves and muscles. At the same time, it may be related to its participation in blocking sodium ion channels, reducing sodium ion influx, inhibiting GABA uptake in nerve endings, and inhibiting the occurrence and diffusion of high-frequency discharge.

#### 5. Conclusion

Diabetic peripheral neuropathy belongs to the category of diabetes syndrome, because of thirst consuming qi and blood for a long time, qi and blood is not rong, resulting in dystrophy of meridians, meridians run unsmoothly, qi and blood can not be transported to the peripheral joints, and qi and blood consumption injury, blood deficiency wind movement, wind customer stasis, meridian obstruction, thus appear "cold" "numb" "pain" "imfunction" clinical manifestations. Therefore, the author believes that the treatment of this disease should focus on "invigorating qi and nourishing blood through meridians" and "relieving wind and activating blood through collagals". According to modern medical research, DPN is related to increased blood viscosity, strong platelet aggregation, and nerve cells ischemia and hypoxia caused by microcirculation stenosis, occlusion and disorder. According to modern pharmacological studies, drugs that benefit qi, promote blood circulation and smooth collaterals and those that calm wind, promote blood circulation and smooth collaterals have significant effects on improving microcirculation, nourishing nerves, reducing blood viscosity and cell repair of ischemia and hypoxia. Therefore, tonifying qi and nourishing blood through meridians and calming wind and activating blood through collaterals can effectively improve the clinical symptoms and therapeutic effect in the treatment of DPN.

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