

Analysis of Wuling Powder in the Treatment of Renal Edema

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Abstract: Wuling dispersion is a traditional Chinese medicine powder composed of Bai, Ze diarrhea, pig cocos, Fu cocos and Guizhi, which is contained in Zhang Zhongjing's typhoid fever in the Han Dynasty, that it is composed of *Atractylodes macrocephala*, *Alisma orientalis*, *Polyporus umbellatus*, *Poria cocos* and *Ramulus Cinnamomi*. Its function is warming Yang, transforming Qi and promoting hydrolysis, and it is consistent with the pathogenesis of Yang deficiency and Shuiting in renal edema. It has been used in the treatment of nephrotic edema.

1. Introduction

Renal edema is a swelling of the limbs or face caused by kidney disease, and in severe cases, swelling of the body^[1]. The condition that changes according to kidney disease can divide kidney sex oedema for nephrotic sex oedema and nephritis sex two kinds. Renal edema is one of the primary renal disease, the disease in clinic, according to the different stages have different performance of Chinese and western medicine in the treatment of renal edema with distinct characteristics, western medicine in the treatment, the more with diuretic drugs, edema, fade quickly, but easy relapse, patients with poor prognosis, and also reduces the patient's quality of life^[3]. In contrast, traditional Chinese medicine treatment of renal edema pays more attention to the pathogenesis and overall syndrome differentiation and tracing the origin. Wuling SAN, from treatises on Febrile Diseases written by the medical saint Zhang Zhongjing, can melt water by warming Yang qi, and has its unique curative effect in treating renal edema by dispelling evil and benefiting water.

2. The Pathogenesis of Renal Edema is Consistent with the Function of Wuling San

Kidney sex oedema does not have direct record in motherland medicine, but can understand a few concerned from in a few books. Symptoms and total features, for example, in “Lingshu · Water Swelling”, there is such a description of renal edema, “like a new lying sericulus, its neck pulsation, cough, cold between Yin and femur, foot tibia swelling, abdomen is large, its water has become”, these descriptions are very consistent with the characteristics of renal edema. It contains the form of edema and

the site of edema.” Su Ask · Hot water acupoint” has also described the similar symptoms of renal edema, such as “kidney, female also...Line in the skin, passed as tarsus “, indicating that edema and kidney have a certain correlation. In the description of body edema in Synopsis of golden Chamber, the body edema is called “shuiqi”, the so-called “qi” has the meaning of filth and impurity, which is caused by the deficiency of zang-fu organs and imbalance of Yin and Yang. Zhang Zhongjing once made an overview of the water-qi disease, and immediately put forward the theory of water-qi disease, holding that the water-qi disease is caused by the maladjustment of the exterior and interior caused by the pathogenic factors entering the body, and the formation of fengshui and skin water. He made a detailed dialectical analysis of the two water-qi diseases, and finally believed that the cause is caused by the patient's body deficiency.” Yin shui, Yang Shui” can be seen in Danxi Xin Fa, later called “edema” or “edema”. It can be seen that the main causes of edema are the dysfunction of zang-fu organs, the abnormal gasification and the obstruction of water and moisture, which are caused by fatigue of diet, weakness of body and the disorder of health and prosperity. Edema is also described in Jing Yue Quanshu.” Edema and other syndromes are diseases related to lung, spleen and kidney.” The book believes that edema is caused by nephropathy of lung and spleen in the body. Visceral disorders cause qi deficiency, lung deficiency, spleen deficiency, kidney deficiency, patients with three internal organs, Yin and Yang imbalance. It reveals the close relationship between lung, spleen and kidney in the pathogenesis of edema^[4]. In treatise on Febrile diseases, if the sun appears evil, it leads to weightlessness of water in the body. Yang barrier. It won't melt. It won't drain. Bad urination, dry mouth and tongue. In this paper, the characteristics of the symptoms of renal edema caused by surface pathogens are described with a very classical theory.” Treatises on febrile diseases” in the treatment of water qi disease, urination unfavorable, edema frequent, can use Wuling powder except. Renal edema involved in the differentiation of lung, spleen and kidney and liver pathogenesis is at the same time, the sanjiao (triple energizer) is interrupted, the six evils of the connected outside attacks, etc., but table of zhong-jing's protestations of evil puzzled, systemic disorder of waterway, sun be the spirit, not fluid infusion disorder has been the edema disease pathogenesis and evolution of the key link, so the five three scattered due to fit the pathogenesis in the treatment of renal edema widely application.

2.1 Renal Edema and Epigenetic Attack

In the etiology and pathogenesis of renal edema, evil qi enters the body leading to damage of lung, kidney and spleen, external evil attack, wind evil invasion affects the balance of water and air in the body, leading to feng shui fighting in the body of the patient, forming local edema. Lungs are the source of the body's moisture and regulate qi around the body. Lung qi tong can change the qi of the whole body, lung damage will block the whole body moisture. When the lung is blocked by air, the patient presents with night sweats, chest tightness, accumulation of lung air without dispersing, internal attack of body moisture and air, pale urine and local edema. “Synopsis of the Golden chamber · Water qi disease pulse syndrome and treatment” in the renal edema has such a description: “pulse floating and flood, floating for wind, flood for qi...”In this paper, qi is described in detail, and the cause of edema is analyzed, and the relationship between qi and renal edema is understood. “Fengshui Syndrome theory of various diseases” that “make the person bloated.....Large pulse floating, called feng shui also”. Feng Shui symptoms are eye swelling, swollen limbs, fever, bad wind, sweating, dry mouth bitter thirst, urine yellow, intestinal singing, heavy body, female amenorrhea, poor appetite, can not lie, lying cough, floating pulse number. This is the manifestation of feng shui (heat syndrome).

At the same time, the table evil wind, the beginning of all diseases, the number of good wind changes, wind evil at the same time with other evil pathogenic, wind evil attack, and with the evil of moisture, the evil of rheumatism, stay in the table, camp guard air machine is not free, water lost in xuan, so water evil overflow in the table, become edema; Rheumatism invades, external dampness induces internal dampness, and dampness causes internal dampness, impeding stagnation of spleen and stomach qi machine, spleen deficiency can not transport moisture, the two influence each other, moisture retention of evil, overflow skin, become edema; When wind evil combined with cold evil causes disease, cold is induced, obstructing qi machine, external cold induces internal cold, kidney Yang deficiency failure, can not warm and gasification, is also one of the important pathogenesis of edema. Wuling SAN is suitable for this type of edema because of its function to express evil and its function to promote Yang qi.

2.2 Renal Edema and Yang Qi Did Not Change

Another important cause of renal edema is closely related to the immobilization of Yang qi in the five zang organs and on the surface of the body. The five zang organs can not be vaporized and lost, which can be summarized as lung qi can not be promoted, temper can not be transferred, kidney qi can not be warmed and closed, liver qi can not be reached, heart qi (fire) can not be lowered, qi can not be blood stasis, blood adverse pulse is water, the five zang organs gasification abnormal function is closely related to edema. Through the in-depth understanding of chronic kidney disease, it is found that the mechanism of chronic kidney disease lies in the gasification of five zang organs and loss of digestion. Gasification is the expression of impaired function of the five zang organs. From the appearance of the patient, it is an obvious manifestation of deficiency of qi and blood in the body causing edema. Most of the patients lived in damp and cold environment, and renal edema was more common in those who waded in rain. In terms of diet, food is too cold, diet is not adjusted, work and rest is not correct will cause damage to the function of the five zang organs, lung qi is not adjusted, resulting in deficiency of qi and blood, Yang Qi is not changed, and eventually become the common cause of edema. Treatise on Febrile diseases (treatise on Febrile Diseases) holds that “evil spirits separate three jiao”. Dampness evil accumulation is blocked, qi machine is blocked, sanjiao qi machine is blocked, water and wet body fluid can not be transferred, stop gathering inside or overflow outside, and edema is formed. The pathogenesis of chronic kidney disease is inseparable from the “dampness”, there is “dampness blocking kidney collateral” in the pathogenesis, the course of disease is lingering and difficult to cure, the evil of dampness, Yang qi is also one of the important factors for the aggravation or recurrence of chronic kidney disease. From the pathogenesis of the viscera, spleen Yang can not warm, water wet natural stop, heart Yang can not be excited, qi can not reach, lung qi lost in the regulation, can not regulate the channel, Yang kidney does not change, water stop in the table. In a word, Yang qi can not warm, Wei Yang can not apply, water qi internal arrest, involving zang-fu qi machine and its deficiency and reality, are the deep-seated causes of renal edema. Wuling SAN with its smooth and smooth prescription characteristics, good at warming Yang qi function characteristics to nephrotic edema brought great good news.

2.3 Renal Edema is Adverse to Temperature Ventilation

Renal edema is related to the internal organ temperature, and the dysfunction of lung, spleen and kidney will lead to the damage of viscera function, resulting in serious adverse reactions to the body. If the kidney and lung between the kidney water, it will seriously hinder the patency of the waterway, can also cause local edema of the body. In addition, between the kidney and the spleen, because the spleen is

weak, the ability to regulate the water vapor around the body is weak, will also lead to excess water vapor in the body. If there is a mismatch between the lungs and the kidneys, it will also cause the phenomenon of excess moisture around the body. If the patient shows Yang deficiency when the kidney and spleen are dissonant, the spleen will increase the regulation of water treatment and the local edema will be more serious. Water is cold evil things, the body moisture excess will accelerate the cold evil into the viscera, to the heart of the viscera, seriously affecting kidney function.” Strange Effect prescription” once summed up the cause of edema, “water starts from the heart and kidney”. It is believed that the edema of the patient is due to the blood stasis and water stagnation caused by excess liver qi, and eventually formed local edema. Chronic kidney disease is more frequent in the diseases of viscera, and chronic disease is common in the causes of kidney disease. Blood stasis is an important factor leading to kidney loss. Blood stasis and collateral obstruction will seriously affect the body's kidney function, and in severe cases, it will further worsen the patient's kidney function. In modern medical studies, proteinuria caused by renal disease can greatly impair renal function. Excessive blood viscosity will lead to the formation of thrombosis in the renal vein, resulting in further deterioration of the kidney condition and serious threat to the patient's life and health. Wuling Powder main functions in the temperature, temperature ventilation machine, gas is water, temperature Yang qi, stasis of nature is not easy to form, temperature Yang qi, phlegm and water wet evil.

2.4 Renal Edema is Closely Related to Spleen Deficiency

Spleen qi activity rise and fall of the hub, operation key of water wet, the renal edema, regardless of its pathogenesis of the disease the actual situation, how many of the inducing factors, among them, the temper cannot transfer is the key link in the process of its evolution and pathogenesis, the key of the lung spleen kidney disorders in function of spleen in zhongzhou gas chance renal disorder of gasification and the main water loss is closely related to the postnatal nurture, Limbs dispersing pertains to run hundreds of qi and blood of the skeleton and moisten all is closely related with the scattered fine function of temper, so to speak, lost the spleen of zhongzhou for water wet operation, the subtle, not endogenous dampness, subtle leaked, proteinuria hematuria can be formed, the postnatal spleen, its function is normal business health qi of zang-fu organs and meridians is smooth, if not shipped pixu (spleen deficient), the estrangement of the viscera, The human body is in a state of “emptiness”. Encounter virtual wind attack again, is bound to appear “two virtual phase”, water wet help, oedema is become. At first glance, Wuling Powder is mainly used to warm Yang and remove qi and water, but further study on its prescription and function characteristics, the characteristics of helping Yang and spleen, spleen and water are very important key points.

2.5 Modern Physicians' Understanding of the Pathogenesis of Renal Edema

Wen-zheng huang^[5]In the study of renal edema, professor believes that there are many factors leading to renal edema in patients, among which wind evil, water dampness, chronic illness positive deficiency and other factors are important factors leading to renal edema. The imbalance between lung, spleen and kidney is also a major factor in renal edema. Liu Chunying^[6]It is believed that the pathogenesis of renal edema is caused by many factors, including internal and external causes, and different factors have different effects on the manifestations of renal edema. Summer heat, dampness and wind chill are all important factors leading to renal edema. Xiong Jibai^[7]In the study of the symptoms of renal edema, according to the main symptoms of patients, renal edema is divided into Yin deficiency, Yang deficiency,

damp-heat and qi deficiency edema. Jun-xia xie^[8]It is suggested that spleen deficiency and qi stagnation and water retention are the important pathogenesis of renal edema. world^[9]It is believed that wei qi is generated by the essence of water and grain. When the spleen and soil are trapped, the nourishing of Wei qi is blocked, which will also lead to local edema of the body. Cheng-lin qiao^[10]Renal edema is the main symptom of Yang deficiency. Kidney-yang deficiency and spleen-yang deficiency promote each other, leading to water dampness, qi does not dissolve water, resulting in edema symptoms on the surface of the body. Chen Yi Pu etc.^[11] In the study, it is believed that the essence of renal edema lies in the imbalance between the three organs of lung, spleen and kidney, excess water and gas, and the obstruction of qi and blood, which eventually leads to the inclusion of deficiency and solid, thus causing the body surface edema. In a word, renal edema is usually closely related to the invasion of external evil, excessive atmosphere, endogenous damp evil, deficiency of spleen and kidney. Feng shui phase attack, lung loss, water stopped in the table; Moisture evil inside sheng, stagnation qi, qi is unfavorable for water; Deficiency of temper, or for wet sleepy, or transport, loss of division, water is unfavorable, so water, or kidney deficiency can not warm, water stopped in. The spleen deficiency and water stagnation play an important role in the pathogenesis of renal edema. The spleen is located in the middle focal point, the hub of qi movement and movement, and the key to transport water and humidity. The spleen deficiency affects the warming of the kidney, aggravates qi stagnation and water stagnation, and the spleen deficiency also aggravates blood stasis and water stagnation. Now medicine for kidney edema have further cognition, from the viewpoint of microscopic analysis of renal edema, the main factors of the patients of renal edema was glomerular filtration ability to drop, can't heavy absorption by glomerular function to adjust the moisture of the body, which can lead to glomerular dysfunction, loss of water filter, element retention rates increase, Plasma permeability drops, allowing fluid to leak out of blood vessels and accumulate on the surface of the skin, forming interstitial edema. Another reason is that the effective blood volume of the kidney is reduced, and the normal blood filtration cannot be carried out, which eventually causes the secretion of antidiuretic hormone to increase. The excessive discharge of water reduces the osmotic pressure of the blood, and a large number of water and sodium retention deepens the generation of edema.

3. Wuling Powder is Used for Renal Edema

3.1 Origin of Wuling San

Five three powder is a kind of zhang zhongjing recorded in treatise on febrile disease of a dose of drug, the main ingredients include atractylodes, alisma, grifola, poria cocos, cassia twig. This prescription has the effect of hydrolyzing surface, warming Yang and changing qi, and has remarkable curative effect in the treatment of renal edema^[12]. Zhongjing's prescription paid attention to the recovery of Yang qi in the treatment of nephropathy, so wuling Powder is very suitable for the pathogenesis of renal edema. While li etc.^[13] In the study of Zhang Zhongjing's six channels dialectical theory, the clinical application of classical prescriptions such as Wuling Powder in the treatment of renal edema has a significant effect. Wang Shenxia^[14]By studying literatures of wuling SAN in the treatment of nephropathy for nearly 25 years, they concluded that wuling SAN was applied to the syndrome treatment of renal edema. The scope of application of Wuling SAN was most common in nephrotic syndrome and chronic glomerulonephritis, and the main indications were water-dampness internal arrest syndrome, Yang deficiency, water-dampness stasis syndrome and spleen-kidney Yang deficiency syndrome. All achieved good curative effect. High Yu Liang etc.^[15]Studies have found that Wuling SAN can be effective in the

treatment of nephrotic syndrome, while there is a significant reduction of edema. In the treatment of renal edema, Wuling Powder can play a strong therapeutic effect. ZanJunJie^[16]In the study of the efficacy of Wuling SAN, 32 patients with kidney Yang deficiency were treated by controlled experiment, and the final treatment results can be seen. Wuling SAN has the effect of reducing eggs and alleviating local edema. Du Yumao^[17]It is concluded that Wuling SAN can effectively treat renal edema, and the prescription has the effect of dredging the lower coke and reducing swelling, so it can be widely promoted in clinical practice. Renal edema with spleen deficiency, jianyun warming and loss of division, no obvious cold and heat. Five three card to stop drinking water with storage, the sun through the inner parts with disease, have a table outside evil unanswered, there were parked inside hydrosphere, bladder gasification, hardness, water thermal storage air not tianjin, tianjin water not cloth, five three scattered light permeability of water, invigorating the function of the wet to reveal the feasible water wet, and spleen dehumidification, five three part the Zhang Lishui square, guide the subject that future generations on this basis, Thus, the addition and subtraction of siling Powder, Yinchen Wuling powder, Weiling Soup, Chunze soup and so on are the name of various pathogenesis. In the course of treating renal edema, the combination of the deficiency and reality of zang-fu organs and other prescriptions has also achieved a very good effect.

3.2 Pharmacological Analysis of Wuling San

The water benefit effect of Wuling SAN lies in its pharmacological action. By analyzing the mechanism of drug components in Wuling SAN, we can better understand the fundamental factors of Wuling SAN in the treatment of renal edema. Among them, Tuckaolin is an important factor that can effectively diuretic and deswelling in Wuling Powder. Tuckaolin can activate the NA-K-ATPASE on the cell membrane to rapidly construct the cell membrane function, reduce the retention of water vapor and improve cell membrane permeability^[18].At the same time, tuckahoe is also a good aldosterone receptor antagonist, can effectively promote the kidney to the water filtration, improve the urine discharge rate, make the kidney function as soon as possible recovery. There is a lot of volatile oil in *Atractylodes atractylodes*, which has outstanding curative effect on edema and ascites. There are experiments that show^[19], *Atractylodes macrocephala* has a powerful diuretic effect. Chen Jing et al. reported that the water decoction of *atractylodes macrocephala* has a good diuretic effect in high dose. From the perspective of modern medicine, it can be found that cassia branch itself is a diuretic, which can improve the filtration efficiency of the kidney for urine^[20]. It can be seen from the current research results that cassia twig is an effective way to effectively treat chronic nephritis. Obviously relieve the edema symptoms of patients. Chenhan etc.^[21] Studies on *polyporus polyporus* ethanol extract and n-hexane, ethyl acetate, n-butanol extract have good diuretic effect, especially the n-hexane extract has the strongest diuretic activity.Chi-nan wu etc.^[22]The experimental study showed that the alcohol extract and water extract of *Alisma alisma* can produce diuretic effect.

4. Typical Cases:

The patient, Surnamed Yu, 53 years old, went to the hospital in January 2020 with severe local edema, mainly concentrated in the face and lower limbs. The patient has a history of diabetes for 12 years, with morning edema, abdominal distension and lack of appetite. The patient was treated in another hospital, and urine routine examination showed urine protein 2+. He was diagnosed as diabetic nephropathy, and repeated application of diuretics was not effective. When the patient came, the face and lower limbs

edema, fatigue, abdominal distension, do not think of diet, thin tongue coating thin white, pulse heavy and astringent. The syndrome was spleen deficiency, water dampness and stagnation. Wuling Powder was added and reduced in treatment. Prescription: big belly skin, 20 g atractylodes 20 g, astragalus root, 20 g alisma 20 g, 10 g cassia twig, rhizoma ligustici wallichii 10 g, 15 g of motherwort, tuckahoe, 20 g, white mulberry root-bark of 20 g, grifola 20 g. 6 fu, water decoction, at the same time to control blood sugar and other treatments. In December 2020, the patient's lower limb edema was alleviated, blood sugar was stable, tongue was light and white with thin moss, and pulse was heavy. Wuling SAN and Zhenwu Decoction were continued to be added and reduced, and the patient's condition gradually improved and the follow-up was stable.

5. Conclusion

In conclusion, the etiology and pathogenesis of renal edema mainly lie in the deficiency of spleen and kidney, and temperature is unfavorable. Wuling SAN focuses on regulating Yang and temperature and invigorating spleen dampness, in order to provide feasible ideas and methods for the treatment of renal edema, and can be flexibly added or reduced in clinical application.

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