

A Summary of Lei Genping's Experience in the Treatment of Chronic Nephritis

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Abstract: Chronic glomerulonephritis involves multiple organs. It has a variety of clinical manifestations and is the major cause of progression to end-stage renal disease in patients with kidney disease. Professor Lei Genping believes that the treatment of this disease in Chinese medicine should be based on the deficiency and reality characteristics of the disease mechanism, distinguishing the priorities and identifying the strengths and weaknesses of the internal organs, as well as advocating the integration of Chinese and western medicine at the right time and in the right manner, in order to achieve fundamental results.

Keywords: Chronic glomerulonephritis; Chinese medicine; Clinical experience

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1. Introduction

Chronic glomerulonephritis is a glomerular immune disease with prevalence ranging from 10.5% to 38.2%^[1]. It is the second most common cause for dialysis in kidney disease patients^[2], accounting for about 19% of patients with end-stage chronic kidney disease^[3]. The main manifestations are proteinuria, hematuria, and oedema, often accompanied by varying degrees of reduced renal function^[4]. Chronic glomerulonephritis has various pathological types and relies primarily on renal biopsy to confirm the diagnosis; there are no specific or sensitive biomarkers that can replace this method^[5]. Modern medicine has identified immune-mediated inflammation as the initiating factor in the development of chronic glomerulonephritis^[6], but there is still a lack of effective therapeutic targets; at present, hormones and cytotoxic drugs are not actively used and their clinical efficacy requires further tests^[7]. Non-immune and non-inflammatory factors are the main targets of current pharmacological drugs, such as antihypertensives, diuretics, urinary protein control drugs, and lipid lowering drugs, but some drugs have more side effects with long-term use, such as ACEI and ARB classes^[8]. On one hand, these drugs have certain advantages over blood pressure and urine protein control, in which these drugs can improve the glomerular state^[9]. On the other hand, especially for patients with kidney damage, they may cause side effects, such as dry cough as well as elevated serum potassium and creatinine^[10,11]. In such circumstance, the treatment options for these patients will be limited, or even to the extent of “no drugs available,” which may eventually delay the progression to end-stage renal disease. However, there are various methods in Chinese medicine for treating the disease, with better efficacy and fewer adverse effects, as well as in improving symptoms and delaying

the progression of the disease. In regard to this, Professor Lei has his unique insights and rich experience, asserting that the integration of Chinese and western medicine in a proper and timely manner can achieve better curative effect. This paper presents Professor Lei's experience in treating chronic glomerulonephritis.

2. Finding the cause and examining the mechanism of the disease

There is no record of "chronic glomerulonephritis" in Chinese medicine. Most practitioners believe that the disease is under two categories: "oedema" and "blood in urine." Professor Lei believes that chronic glomerulonephritis is caused by wind, cold, dampness, and heat externally, and the damage to vital energy internally due to poor diet and internal injuries from strain and fatigue, especially the damage to the lungs, spleen, and kidneys. In that case, the treatment should focus on the relationship among the three organs [12,13]. From modern anatomical analysis, coordinated renal-pulmonary crosstalk exists in the body under normal conditions to achieve adequate vascular tone, erythropoietin production, and water, electrolyte, and acid-base balance [14], while the spleen is the largest secondary lymphoid organ in the body with extensive immune functions [15]. Therefore, these three organs play a crucial role in the pathogenesis of chronic glomerulonephritis. The basic pathogenesis is an imbalance of yin and yang in the lung, spleen, and kidney, with phlegm and stagnant internal groups as well as water-dampness not being transformed. The pathogenesis is characterized by a deficiency in the body and symptoms. Patients with this disease are often deficient in positive qi and are susceptible to external evil, which in turn damages the positive qi, leading to a vicious cycle that eventually results in the deterioration and prolongation of the disease. Although chronic glomerulonephritis has not progressed to chronic renal failure, the pathological products such as heat, dampness, and stasis are usually produced in the course of the disease due to the deficiency of the internal organs, which is both the result and the cause of the deficiency of positive qi [16].

3. Dialectical treatment

3.1. Lung and spleen qi deficiency, dampness stays

The initiating factor of chronic glomerulonephritis is attributed to an immune-mediated inflammatory response, which can be triggered by an upper respiratory tract infection and present as an acute attack [6]. Repeated episodes of pharyngitis can aggravate the condition by stimulating the immune system to continuously form new immune complexes [17]. In addition, Chinese medicine believes that the external evil binds the lungs, which causes the lungs to lose its ability to declare and descend; the water channels are then blocked, and the skin overflows, resulting in edema. Therefore, it is essential to treat chronic glomerulonephritis in association with the lungs [18]. According to "Jing Yue Quan Shu," "All symptoms such as edema are related to the three zang organs (lungs, spleen, and kidney). Water is the ultimate yin, and its origin is in the kidneys; water is transformed into qi, so it is marked in the lungs; water is only afraid of soil, so it is controlled in the spleen." A deficiency in the spleen's yang energy and the downward drainage of refined substances will eventually lead to proteinuria. By linking the two organs, spleen dampness traps the spleen and offends the lung, congesting lung qi, which in turn causes spleen dampness, leading to a series of symptoms. These symptoms include swelling of the face and lower extremities, or even swelling of the whole body, along with palpitations, shortness of breath, tiredness, abdominal distension, whitish or yellowish face, pale red tongue, with thin white coating, greasy coating on the root of the tongue, and sluggish pulse. The focus should be on tonifying the lung and strengthening the spleen, permeating dampness, as well as promoting water circulation. This formula is based on ginseng and *Atractylodes macrocephala* with addition and subtraction. This means that the prescription is added and subtracted according to the symptoms. For example, if the swelling is severe, with distended abdomen and the urine is minimal, poria ling and big belly skin should be added; if the chest is stuffy and anorexic, coke malt, coke hawthorn, and fried malt should be added; if the hands and feet are cold, with cold intolerance,

cinnamon branch, dry ginger, and fenugreek can be added.

3.2. Deficiency of kidney and spleen yang and overflow of water-dampness

According to “Essential Readings in Medicine,” “He who is a good physician must be responsible for his origin. The essence of the first heaven is the kidney, and the essence of the second heaven is the spleen.” It has been pointed out that the kidneys and spleen are the first and second elements of the human being, nourishing each other. According to “Medical Journal,” “The vital fire is weak and lacks the power of absorption, so the kidneys cannot seal the blood that eventually comes out with the urine.” On one hand, it is argued that the deficiency of kidney yang and the lack of absorption lead to blood in the urine; on the other hand, the deficiency of kidney yang and the weakening of the vital fire cause the spleen to lose its warmth and yang. The symptoms include swelling of the whole body, more below the waist, pale face, cold feet, backache, depression, spermatorrhea, impotence, premature ejaculation in men, thin banding in women, pale, fat and tender tongue with teeth marks and white coating, as well as sunken or sluggish pulse. The formula uses Astragalus and the Kidney Formula (self-formulated) to nourish the spleen and kidney, promote water retention, as well as reduce swelling. The specific herbs used include Astragalus, Radix Astragali, Rhizoma Polygonati, Radix Salviae Miltiorrhizae, and Radix et Rhizoma Pseudostellariae. It is worth noting that Professor Lei believes that diuresis cannot be achieved without Astragalus ^[19]. In addition, Professor Lei used to use the idea of “prescription instead of medicine.” This means that when patients have severe symptoms of blood stasis, Gui Zhi Fu Ling Wan can be used instead of Dan Shen. The overall formula reflects the six methods: cultivating, tonifying, consolidating, declaring, clearing, and promoting ^[20]. If the urine protein is above ++, fried gold cherry and Astragalus can be reused; ephedra, pseudostellaria, and sophora can be added if the patient feels cold, is edematous, and has urination issues, without any sweating or shortness of breath.

3.3. Deficiency of the liver and kidneys, internalization of water-heat and blood stasis

According to Professor Lei, liver and kidney deficiency is a common pathogenesis of chronic glomerulonephritis. According to Zhu Danxi, “Yang is always in excess, while yin is always in deficiency.” Yang refers to fire, which is based on liver and kidney essence and blood. Excessive emotions and passions turn into heat, leading to hyperactive liver fire; excessive sexual desire leads to a deficiency of kidney essence and eventually results in internal heat deficiency. The liver represents wood and blood reservoir, while the kidney represents water and essence reservoir. The evil of fire and heat burns and refines fluid into phlegm and stagnation. The liver is responsible for draining and regulating the qi of the three jiao, promoting the dispersal of water, the transportation of water and grain, as well as the evaporation of water. The symptoms include edema of the face or limbs, tinnitus and vertigo, soreness and weakness of the waist and knees, irritable heat in the five hearts or hot flashes in the afternoon, redness over the cheek and night sweats, seminal emission and spermatorrhea, pale dark purple tongue, with slight yellowish moss or less moss, as well as thin pulse. The formula is based on nourishing the kidneys and softening the liver as well as nourishing yin and clearing heat to promote water retention. If urine protein is above ++, fried cherry seeds and gorgonian can be added; if there is soreness and weakness of the waist and knees, Chuan Xuan Zhuan Zhuan and mulberry can be added; if the spleen is weak and damp, Chen Pi and Coix Seed can be added.

3.4. Yin and yang deficiency

It should be clear that yin mainly refers to kidney yin, but yang does not refer to kidney yang alone. According to Professor Lei, this is an advanced stage of the disease, and the lungs and spleen are in a state of decompensation, so it is important to identify the yin and yang of the internal organs. According to “Su

Wen,” “Without yin, yang cannot be generated; without yang, yin cannot be transformed.” This shows that yin and yang are mutually dependent on each other. When the warming and propulsive effect of yang is weakened, it will affect the metabolism of water and fluid as well as the functioning of qi, resulting in the accumulation of more pathological products. Patients with chronic glomerulonephritis have a prolonged course of illness and eventually show a state of deficiency of both yin and yang. The symptoms include facial, limb, and periorbital edema in the morning or inconspicuous swelling, fatigue, susceptibility to wind and cold, lack of warmth in the hands and feet, hot flashes in the afternoon or at night, dry mouth and throat, as well as poor urination, reduced volume, or frequent nocturia. The formula should nourish yin and support yang, benefit qi and consolidate the surface, as well as clear the remaining evil. If there is nocturia, codonopsis and jinzhuzi should be added.

4. Case discussion

The patient is a 51-year-old female who complaint of intermittent eyelid swelling for five years, which aggravated over the past two weeks. Her first visit to the hospital was on August 10, 2021. Five years ago, she visited the local hospital for eyelid swelling. She was diagnosed with chronic glomerulonephritis. A renal biopsy was performed at the local hospital, which revealed proliferative sclerosing glomerulonephritis. She was then treated and discharged.

Her symptoms this time were mild puffiness of the eyelids, lumbar pain, drowsiness, cold intolerance, and feelings of anxiousness. She also had nocturia, in which she had to pass urine two to three times a night, and she noted foam in her urine. However, her urine volume was acceptable, and there was no gross hematuria. Upon examination, her tongue was pale, with a white, greasy coating, bordered by teeth marks, and a sunken, thin pulse. Upon investigations (August 6, 2021), her 24-hour urinary total protein (24h-UTP) was 1,670 mg/L; urine protein was +++; serum creatinine was 235 $\mu\text{mol/L}$, and blood urea nitrogen (BUN) was 10.90 mmol/L. The Traditional Chinese medicine diagnosis was oedema, deficiency of spleen and kidney yang. The goal of the treatment was to warm the kidney yang, strengthen the spleen, and benefit the qi. The formula was based on 90 grams of *Astragalus membranaceus*, 30 grams of *Radix Rehmanniae*, 30 grams of *Oldenlandia diffusa*, 10 grams of *Herba schizonepetae*, 15 grams of *Radix Cinnamomi*, 15 grams of *Poria*, 15 grams of *Radix Paeoniae*, 15 grams of peach kernel, 15 grams of *Mu Dan Pi*, 10 grams of *Huang Lian*, and 15 grams of black shun tablet. A total of 14 doses were prescribed. During the second consultation on August 24, 2021, she was relieved from lumbago and weakness, swollen eyelids in the morning, and frothy urine. Her 24h-UTP was 1,059 mg/L; urine protein was ++; serum creatinine was 211 $\mu\text{mol/L}$, and BUN was 10.70 mmol/L. On top of the previous prescription, 20 grams of *Radix Codonopsis pilosulae*, 20 grams of branched *Atractylodes Macrocephala*, 20 grams of *Glycyrrhiza glabra*, and 30 grams of *Rhizoma Dioscorea* were added. A total of 14 doses were given to the patient. During the third consultation on September 14, 2021, her 24h-UTP was 125 mg/L; urine protein was ++; serum creatinine was 124 $\mu\text{mol/L}$, and BUN was 7.5 mmol/L. On top of the previous prescription, 20 grams of salted bone marrow, 15 grams of fried coix seed, and 5 grams of white lentil were added, with a total of 14 doses given.

Professor Lei mentioned that this patient has passed the age of “7-7” and has a deficiency in the spleen and kidneys. She has not been treated systemically for a long time, which has led to a deficiency of positive qi and the retention of evil qi, resulting in yin and water stagnation. The deficiency of spleen and kidney yang energy as well as the internal stagnation of water and dampness have led to swelling and the aforementioned examination findings in the tongue and pulse. The spleen is responsible for raising qi, and a deficiency in the spleen means that the spleen qi does not rise, which is seen in the downward discharge of essence and microscopic substances, hence the frothy urine. The lumbar region is the capital of the kidneys. With protein leakage, the kidney essence becomes more deficient over time, and the lumbar region loses its moistening, hence the pain in the lumbar region. The kidneys and spleen are the successive

“heavens” of the body. If the kidneys and spleen are dysfunctional, the water and grain essence cannot be dispersed throughout the body, thus causing drowsiness. The formula is based on Ginseng-Qi Dihuang Tang, which has been perfected and clinically tested over the years. In consideration of the patient’s pathogenesis, dampness is a yin evil and cannot be dissolved without warmth, so Radix Aconiti was added in this case to promote the warming of the spleen and kidneys; it was then mixed with the bitter cold yellow lotus to combine cold and heat, so that both fire and water can be used to clear the heart and liver fire as well as warm the kidneys. During the second consultation, the patient’s symptoms were relieved, but she still had swollen eyelids, weakness, and lumbar pain, so *Atractylodes macrocephala* and *Glycyrrhiza glabra* were added to achieve the effect of Ling Gui Zhu Gan Tang. During the third consultation, her symptoms were clearly relieved, and the laboratory test results were also improving, so salt was added to warm the kidneys and improve the yang. If the effect is significant, it can be taken for a long time.

Disclosure statement

The authors declare no conflict of interest.

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