

A Discussion on TCM Treatment and the Pathogenesis of Membranous Nephropathy in Primary Nephrotic Syndrome

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Abstract: *Objective:* To investigate the TCM treatment principle of membranous nephropathy and its effect. *Methods:* A total of 56 patients were selected from the Affiliated Hospital of Shaanxi University of Traditional Chinese Medicine. They were then divided into the control group (western medicine standard therapy) and the study group (Qidi Gushen prescription), with 28 patients in each group. The treatment effect, treatment safety, and patients' satisfaction were observed and compared between the two groups. *Results:* The results showed that the treatment effect of the study group was 96.43%, which was significantly better compared with the control group (75.00%) ($p < 0.05$); in terms of safety, the probability of adverse events was 7.14% in the study group and 32.14% in the control group, in which the difference was statistically significant ($p < 0.05$); in addition, the study group's satisfaction with the treatment measures was significantly higher than that of the control group ($p < 0.05$). *Conclusion:* In treating membranous nephropathy, traditional Chinese medicine can be tailored to its pathogenesis, which is not only beneficial to the treatment effect, but also has a high safety profile.

Keywords: Primary nephrotic syndrome; Membranous nephropathy; Traditional Chinese medicine; Qidi Gushen prescription; Pathogenesis

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1. Introduction

Membranous nephropathy (MN) is a glomerular disease in which immune complexes are deposited beneath the epithelial cells of the diffusely-thickened glomerular basement membrane (GBM) [1]. Several studies have pointed out that MN is a common cause of primary nephrotic syndrome. Its clinical manifestations are proteinuria and edema [2], and its location is mainly in the kidneys, spleen, and lungs. At present, the treatment for MN is mainly based on hormones and immunosuppressants in western medicine, but there are many side effects, which will cause various complications, such as increased risk of infection, immune tolerance, and thromboembolism, which have certain impact on the quality of life of patients and their prognosis [3]. Lei Genping, a chief physician, has been engaged in the clinical work of kidney disease for a long time. He came to realize that the pathogenesis of MN is a combination of deficiency and excess, in which the deficiency lies in the spleen and kidney, where water dampness, damp heat, and blood stasis coexist. Based on this, he established six methods in the treatment of MN, which include cultivating, tonifying, consolidating, promoting, clearing, and dredging, as well as developed Qidi Gushen prescription, which has a significant effect in improving the clinical symptoms of patients with MN and reducing

proteinuria ^[4]. Since proteinuria is not addressed in traditional Chinese medicine, it belongs to Jingwei substance. It is clear that the majority of patients have insufficient kidney essence, causing a lost in its sealing function. Patients present with symptoms of deficiency and excess. Clinical treatment can benefit the liver and kidney, Qi and blood circulation, as well as dredge the meridians ^[5]. In this study, 56 patients with membranous nephropathy were recruited as research subjects, in order to investigate the clinical efficacy, adverse reactions, and their satisfaction with different interventions ^[6].

2. Clinical data and methods

2.1. Clinical data

The subjects were selected from 56 patients with primary membranous nephropathy and divided into two groups (control group and study group), with 28 patients in each group. The basic information of the subjects is shown in **Table 1**.

Table 1. Data comparison among subjects

Group	Number of patients	Average age (years)	Gender	
			Male	Female
Control group	28	40.30 ± 4.12	18	10
Study group	28	40.57 ± 4.01	15	13
<i>p</i>	-	> 0.05	> 0.05	

2.2. Intervention

2.2.1. Control group

Conventional western medicine methods were used to diagnose the disease and treat the patients according to the degree of illness. The treatment measures included reducing sodium intake, controlling protein and calorie intake, consuming detumescence and diuretic drugs, as well as using glucocorticoids and cytotoxic drugs to inhibit immune response ^[7].

2.2.2. Study group

Traditional Chinese medicine treatment methods were used for the patients in the study group.

(1) Identifying the basic symptoms

According to traditional Chinese medicine theory, the pathogenesis of membranous nephropathy involves the loss of kidney essence, water dampness, blood stasis, and damp heat. The clinical symptoms of the patients were mainly proteinuria and edema.

(2) Qidi Gushen prescription

The methods of tonifying the kidney and spleen, removing blood stasis and swelling, as well as removing dampness and heat were used ^[8]. Qidi Gushen prescription, which consists of Astragalus membranaceus, Radix rehmanniae, Euryale ferox, Hedyotis diffusa, Schizonepeta tenuifolia, Salvia miltiorrhiza, and other components, were used in this study. Based on the severity of edema, plantain seeds and Alisma orientalis were added, accordingly; with proteinuria, cicada slough, perilla, Ligusticum chuanxiong, earthworm, and other components were added; in treating damp heat, Poria cocos and Hedyotis diffusa were added, accordingly; with severe blood stasis, Angelica sinensis, Salvia miltiorrhiza, red peony root, and motherwort were added to promote blood circulation and remove blood stasis ^[9]. Water was used for decoction and to remove residues. One dose was divided into three times, and the patients were required to take one dose a day with warm water. The course of the treatment was

one month.

2.3. Observation indicators

The treatment effect, treatment safety, and patients' satisfaction were compared between the two groups.

3. Results

3.1. Treatment effect

According to the research results, the treatment effect of the patients in the study group was 96.43%, which was significantly superior to that of the patients in the reference group (75.00%) ($p < 0.05$), as shown in **Table 2**.

Table 2. Comparison of the treatment effect between the two groups

Group	Number of patients	Very effective	Effective	Ineffective	Effective rate (%)
Control group	28	7	14	7	75.00
Study group	28	15	12	1	96.43
<i>p</i>	-	-	-	-	< 0.05

3.2. Treatment safety

In terms of safety, the probability of adverse events in the study group was 7.14%, while that in the reference group was as high as 32.14%. There was significant difference between the two groups ($p < 0.05$), as shown in **Table 3**.

Table 3. Comparison of the treatment safety between the two groups

Group	Number of patients	Infection	Fever	Nausea and vomiting	Dizziness	Incidence (%)
Control group	28	3	4	1	1	32.14%
Study group	28	0	1	0	1	7.14%
<i>p</i>	-	-	-	-	-	< 0.05

3.3. Patients' satisfaction

In addition, the study group's satisfaction with the intervention was significantly higher than that of the control group ($p < 0.05$), as shown in **Table 4**.

Table 4. Comparison of patients' satisfaction between the two groups

Group	Number of patients	Very satisfied	Satisfied	Dissatisfied	Satisfaction (%)
Control group	28	6	16	6	78.57%
Study group	28	14	12	2	92.86%
<i>p</i>	-	-	-	-	< 0.05

4. Discussion

Membranous nephropathy is an autoimmune glomerular disease that is commonly diagnosed in clinical settings. Patients usually present with edema, hypertension, hematuria, proteinuria, and other symptoms. This disease often affects people aged 40 to 60 [10]. According to research, one of the main pathogenic factors of membranous nephropathy is the deposition of immune complexes on the glomerular epithelial

side, resulting in podocyte damage, a decrease in glomerular filtration rate, and a series of adverse reactions, which seriously affect the quality of life of patients ^[11]. Immunosuppressive therapy or hormonal therapy is often used in western medicine to treat these patients, but the clinical efficacy is debatable due to the influence of various factors, such as the severity of patients' condition and tolerance, and the majority of them will develop adverse effects, resulting in a decline in prognosis and the quality of life of patients.

With the continuous improvement of China's comprehensive national strength, traditional Chinese medicine, as a unique way of curing diseases and saving people, has gained wide recognition. In TCM, syndrome differentiation and treatment are taken as the core, the pathogeneses of diseases are explored through investigations, and medications are prescribed to eliminate diseases ^[12]. Membranous nephropathy belongs to urine turbidity and edema in traditional Chinese medicine. It is primarily caused by kidney and spleen deficiencies. Its treatment is based on tonifying the kidney and strengthening the spleen, clearing away heat and dampness, as well as supplementing qi and activating blood circulation. Qidi Gushen prescription is used for addition and subtraction, and its treatment effect has been found significant ^[13]. Based on the theory of traditional Chinese medicine, the use of conventional western medicine generates heat internally and aggravates the damp heat symptoms of membranous nephropathy, which will further escalate the pathogenesis of membranous nephropathy; thus, it is not conducive to the treatment of the disease. According to traditional Chinese medicine, most patients with membranous nephropathy have coated red tongue, along with symptoms of dry mouth and extreme thirst, burning sensation in the chest, palms, and soles, as well as "limp aching lumbus and knees." However, the fine substances in the body with high demand are 8:30. Once patients have proteinuria, their albumin levels will decrease, resulting in symptoms of spleen deficiency ^[14]. In the treatment of membranous nephropathy, traditional Chinese medicine emphasizes on the principles of diuresis, clearing of heat, removing blood stasis, activating blood circulation, relaxing meridians, and dredging collaterals. In Qidi Gushen prescription, *Astragalus membranaceus* has the effects of consolidating the exterior, supplementing qi, diuresis, and detoxification; *Qidi* has the functions of nourishing yin, generating body fluid, cooling the blood, and clearing away heat; *Euryale ferox* has the functions of supplementing the exterior, qi, kidney, spleen, and dampness; *Hedyotis diffusa* may help in diuresis, dehumidification, detoxification, and heat clearing; *Schizonepeta tenuifolia* may help in "dispersing cold," activating blood circulation, cooling blood, clearing heat, expelling wind, and dehumidification; *Salvia miltiorrhiza* may help in cooling blood, calming nerves, dredging meridians, promoting blood circulation, and removing blood stasis. A multidrug combination can nourish the liver and kidney, strengthen the exterior and spleen, replenish qi, as well as activate blood circulation. Modern pharmacology asserts that the aforementioned prescription can effectively improve proteinuria, inhibit abnormal immune responses, eliminate inflammatory reactions, improve the treatment effect, and enhance the quality of life of patients ^[15].

In conclusion, in treating membranous nephropathy, TCM treatment can be tailored to its pathogenesis to fully ensure the safety of treatment, promote clinical efficacy, and ensure the prognosis and quality of life of patients.

Disclosure statement

The authors declare no conflict of interest.

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