

An Understanding of the Treatment Principle “Open the Ghost Gate, Purify the Bladder, and Remove Stagnant Dampness” from the Huangdi Neijing in the Context of Edema Caused by Membranous Nephropathy

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Abstract: *In recent years, the incidence of membranous nephropathy has risen significantly, and most patients initially present with edema. The classic theory proposed in the “Huangdi Neijing” — “open the gates of the ghost, cleanse the reservoir, and remove stagnant waste” — provides important guiding principles for the treatment of such edema. This article briefly explores our understanding of how the Huangdi Neijing’s principle of “opening the gates of the ghost, cleansing the reservoir, and removing stagnant waste” can be applied to treat edema caused by membranous nephropathy, highlighting the guiding significance and value of this classical theory in modern clinical practice.*

Keywords: Huangdi Neijing, Membranous nephropathy, Opening the gates of ghosts, Cleansing the fu organs, Removing stagnant phlegm and old waste.

1. Introduction

Membranous nephropathy (MN) has recently become the primary glomerular disease with the fastest-growing incidence rate. It is the leading cause of nephrotic syndrome in adults and has shown a marked increase in China over recent years, with a trend toward younger patients. Most studies suggest that primary membranous nephropathy may result from immune complex deposition beneath podocytes due to autoimmune dysfunction. Clinically, it manifests as edema, massive proteinuria, hypoalbuminemia, hyperlipidemia, and — less commonly—hematuria. In recent years, the incidence of membranous nephropathy has risen significantly [1], and most patients initially present with edema as their primary symptom. In 2021, the KDIGO guidelines for glomerulonephritis proposed a four-tier risk stratification for MN along with corresponding recommended treatment regimens. For low-risk patients, initial management can focus on symptomatic supportive care with close monitoring. For intermediate-risk patients, rituximab (RTX), calcineurin inhibitors (CNIs), or a combination of CNIs and glucocorticoids may be considered. For high-risk patients, treatment options include RTX, cyclophosphamide (CTX) combined with glucocorticoids, or CNIs combined with RTX. For very high-risk patients, only CTX combined with glucocorticoids is indicated. These guidelines have further refined the treatment approach for MN and have demonstrated clear efficacy in reducing proteinuria and improving renal function in clinical practice. However, during clinical treatment, it has been observed that some patients still experience persistent or recurrent edema. Conventional Western medicine treatments using diuretics often yield poor results and are prone to adverse effects such as decreased blood volume, azotemia, metabolic alkalosis, and electrolyte disturbances [2].

Although the degree of edema cannot serve as the primary indicator for assessing the severity of renal lesions or predicting the prognosis of kidney disease, persistent edema can significantly affect a patient’s psychological well-being and quality of life. In cases of severe sodium and water retention, it may also lead to serious complications such as heart failure and acute pulmonary edema [3], posing a threat to the patient’s life. From the perspective of Traditional Chinese Medicine, the onset of edema stems from abnormalities in the body’s water metabolism. The physiological functions of the lung, spleen, and kidneys are closely linked to water metabolism, as elaborated in detail in the “Huangdi Neijing.” As stated in the “Suwen: Jingmai Bie Lun Pian”: “After drinking enters the stomach, it disperses essence and qi, which are then transported upward to the spleen. The spleen qi disperses the refined essence, which is subsequently returned to the lungs.”

“Regulate the water channels and guide the fluid downward into the bladder.” After drinking water enters the stomach, it is transformed into essence qi and transported upward to the spleen. The spleen’s ascending qi then sends the body fluids upward to the lungs. The lungs, as the master of regulating the water channels, use their descending qi to guide the fluids downward into the bladder. As stated in the “Linglan Midian Lun” from the Suwen: “The bladder is the official of the state capital; it stores the body fluids, and when qi transforms them, they can be discharged.” The lungs serve as the upper source of water, while the kidneys are the master of water. Since water fluids belong to yin, they gather in the bladder and, through the transformation effected by kidney qi and bladder qi, are converted into body fluids. Thus, it is evident that during the metabolism of water fluids, the three organs—the lungs, spleen, and kidneys—each play a crucial role. If any

one of these organs experiences a physiological dysfunction, it can disrupt the pathways of water-fluid metabolism, leading to abnormal water-fluid metabolism and the development of edema. The classic theory proposed in the *Huangdi Neijing* — “open the gates of the ghost, cleanse the mansion, and remove the stagnant waste”—provides an important guiding principle for treating such edema conditions.

2. Etiology and Pathogenesis of Edema Caused by Membranous Nephropathy.

First, regarding the etiology and pathogenesis of membranous nephropathy: it arises from deficiency of both the spleen and kidneys, with external pathogenic factors invading the kidneys. Modern research suggests that the onset of membranous nephropathy is closely associated with smog and PM2.5. In his “*Jin Gui Yao Lue*,” Zhang Zhongjing proposed the theory of the five types of evil influences causing disease, emphasizing that “fog harms the upper part of the body... fog damages the skin and (skin’s interstitial spaces).” The skin and serve as the gateway to the Triple Burner; thus, the pathogenic factors of smog and haze can enter the body through the Triple Burner, traveling via the skin’s interstitial spaces to damage the spleen and kidneys. Smog and haze represent a special type of exogenous pathogenic factor. Because fog contains abundant moisture, it exhibits clinical characteristics typical of dampness—dampness is akin to water and belongs to the category of tangible yin pathogens. Fog often contains haze, and haze frequently includes various harmful particulate substances. One reason is that kidney qi itself is deficient, unable to properly store essence; another is that although kidney qi remains strong, external pathogenic factors are also vigorous, disturbing the essence reservoir, causing instability in the essence reservoir and leading to leakage of essence qi, thereby producing proteinuria. In the treatment of membranous nephropathy, it is essential to tonify the kidneys and nurture the original qi to reinforce the body’s righteous qi, while never neglecting the elimination of pathogenic factors. These pathogenic factors may originate externally as wind or heat evils, or they may arise internally due to deficiency of the spleen and kidneys, resulting in dysfunction of the transportation and transformation of qi, blood, body fluids, and damp-heat, as well as stasis of blood, phlegm, and turbidities.

The spleen is the foundation of postnatal life and plays a crucial role in transforming and transporting water fluids and food substances. As stated in the “*Suwen: Zhen Yao Da Lun*” chapter, “All conditions characterized by dampness, swelling, and fullness are attributed to the spleen.” This indicates that when the spleen functions properly, it can effectively transform and distribute nutrients throughout the body. If the spleen’s transformative function is impaired, water fluids tend to accumulate, giving rise to pathogenic dampness, phlegm, or edema. When the spleen’s qi is weak and water-dampness stagnates internally, the ascending of clear substances and descending of turbid ones becomes imbalanced. Clinically, this often manifests as lower-limb edema, abdominal distension, and loose stools. Moreover, dampness and turbidity can damage yang qi, leading to symptoms such as fatigue and poor appetite. The “*Suwen—On the Discussion of Reverse Regulation*” states: “The kidneys are the water organs, governing body fluids and controlling sleep and shortness of

breath.” This indicates that the key site of edema lies in the kidneys. If kidney yang is deficient, it’s akin to having an insufficient fire in the body’s furnace—there isn’t enough yang energy to drive the evaporation and transformation of body fluids. As a result, the metabolism of body fluids becomes disordered, leading to edema. When kidney yin is deficient, the kidneys’ nourishing function is impaired; this yin deficiency may give rise to 虚火 (empty heat), which scorches body fluids, disrupting their distribution and thereby upsetting the balance of fluid metabolism and potentially causing edema. Moreover, dysfunction of the kidneys’ qi-transforming function is a critical factor in the development of edema. When the kidneys’ qi-transforming function is impaired, their opening and closing mechanisms become dysfunctional. If the kidneys lose their ability to open and close properly, fluids that should be excreted cannot be eliminated and instead accumulate within the body, triggering edema. Therefore, although the pathogenesis of renal edema is complex, restoring kidney function remains the central principle throughout the treatment process.

3. Treatment Methods for Edema

The “*Suwen—On Decoctions and Fermented Liquors*” proposes the general principle for treating clinical edema: “Maintain equilibrium through balancing.” Whether yin or yang is excessively dominant or deficient, it can disrupt the body’s fluid regulation and thus lead to edema. Therefore, harmonizing the excesses and deficiencies of yin and yang is an important therapeutic principle. Moreover, “opening the gates of the ghost, cleansing the reservoir, and removing stagnant waste” constitute the three major therapeutic approaches for treating edema in clinical practice.

3.1 Open the Ghost Gate

In his work “*Jingui Yaolue*,” Zhang Zhongjing proposed a treatment approach for edema: “If swelling occurs above the waist, inducing sweating will lead to recovery.” The term “*Guimen*” is also referred to as “*Xuanfu*,” which literally means the sweat pores on the body’s surface. “Opening *Guimen*” essentially involves inducing sweating—by promoting perspiration, it allows pathogenic factors within the body to be expelled along with the sweat. As recorded in the “*Suwen: On Cough*,” “The skin and hair are the external manifestation of the lungs; when pathogenic factors first invade the skin and hair, they follow the channels of the lungs.” The lungs govern the movement of water and are closely connected to the skin on the body’s surface, with their external manifestations appearing in the hair. Since the lung qi and the skin/hair are interconnected, the lungs are particularly vulnerable to invasion by external pathogenic factors. As the primary source of water in the body, the lungs regulate the circulation and distribution of body fluids. Once sweating opens the skin’s pores, the lungs’ functions of dispersing and descending can return to normal, enabling the smooth distribution of body fluids throughout the body. Therefore, when employing sweating as a therapeutic method, it is essential to incorporate the principle of unblocking and invigorating the lung qi. From a broader perspective, “opening *Guimen*” is not limited solely to inducing sweating; rather, it encompasses various approaches such as opening and invigorating the lung qi, regulating the water passages, or

guiding the downward flow of body fluids into the bladder — all aimed at eliminating excess fluid accumulation in the body, thereby reactivating and restoring the lungs' physiological function of governing water metabolism. This approach is akin to “lifting the lid off a pot”—skillfully creating an outlet for the body fluids to be excreted—and ultimately achieving the goal of treating membranous nephropathy-induced edema. In terms of selecting Chinese herbs, one might consider using herbs such as Ephedra and Cinnamomi Ramulus, which possess both sweating and exterior-releasing properties, to facilitate the implementation of “opening Guimen” and accelerate the relief and healing of membranous nephropathy-induced edema. Ma Huang Tang is a commonly used prescription; Ephedra helps disperse the lungs and induce sweating, while Cinnamomi Ramulus assists Ephedra in promoting sweating, releasing exterior pathogens, and warming and unblocking the meridians. However, when applying these herbs, it is crucial to tailor the prescription according to each patient's specific condition and syndrome differentiation. For patients with weaker constitutions or those presenting with additional concurrent symptoms, appropriate adjustments to the herbal formula may be necessary. Among non-pharmacological therapies, moxibustion applied to acupoints such as Feiyu and Fengmen can stimulate the lung meridian's qi, thus achieving the effect of dispersing the lungs and inducing sweating. Additionally, moderate physical exercises, such as the “Both Hands Supporting the Heavens to Regulate the Triple Burner” movement from the Eight Brocades, can promote the circulation of qi and blood and enhance sweat secretion. However, exercise intensity should be moderate to avoid overexertion.

3.2 Cleanse the Mansion

In traditional Chinese medicine, the term “jie” carries the meaning of promoting the smooth flow and drainage of bodily fluids. Here, “fu” specifically refers to the bladder; thus, the core principle of “Jieqing Fu” is to promote urination. In his classic work, “Jingui Yaolue,” Zhang Zhongjing explicitly stated: “If there is swelling below the waist, one should promote urination.” When lower-limb edema is the primary clinical manifestation, according to TCM theory, the water is considered a yin pathogen with a downward tendency, and its root cause lies in the kidneys. If edema persists for a long time without healing, it will inevitably lead to a state of deficiency and decline of yang qi in both the spleen and kidneys. Therefore, during treatment, it is crucial to focus on methods that warm and invigorate yang qi, thereby transforming qi and promoting the elimination of water. Based on clinical practice, the underlying pathogenesis of membranous nephropathy is primarily characterized by qi deficiency and blood stasis; hence, treatment should be guided by the principle of warming yang and promoting diuresis. In terms of herbal selection, herbs such as *Poria cocos*, *Alisma orientalis*, and *Plantago major*—known for their diuretic and damp-eliminating properties—are frequently employed. Among these, *Wuling San* stands out as a quintessential formula. Its composition is ingeniously designed: *Poria cocos* and *Alisma orientalis* effectively promote diuresis and eliminate dampness, while *Poria cocos* further enhances the diuretic effect; *Atractylodes macrocephala*, meanwhile, strengthens the spleen and dries dampness, thereby aiding in the proper transportation of qi. To resolve water dampness,

Cinnamomi Ramulus can warm yang and transform qi, thereby aiding in diuresis.[12] In clinical practice, physicians can flexibly adjust and modify this formula based on the patient's specific degree of edema and any accompanying symptoms. Modern pharmacological studies have shown that Zhenwu Decoction can warm kidney yang by stimulating endocrine axes such as the hypothalamic-pituitary-adrenal axis and the hypothalamic-pituitary-thyroid axis, reduce levels of nitric oxide and endothelin in the body, inhibit cardiomyocyte apoptosis, and increase urine output by regulating osmotic pressure and aquaporins (AQP), thus exerting a diuretic effect. Membranous nephropathy itself is characterized by difficulties in treatment and a tendency for frequent relapses following infections; this makes its edema course not only prolonged but also prone to recurrence. In clinical treatment, in addition to conventional Western medical approaches such as volume expansion and diuresis, one can skillfully incorporate traditional Chinese medicine methods—“eliminating stagnant phlegm, opening the ghost gates, and cleansing the lower energizer.” It is worth noting that promoting urination also helps eliminate pathogenic substances such as damp turbidity from the body, thereby improving the microenvironment of the kidneys and providing more favorable conditions for the treatment of membranous nephropathy, enhancing overall therapeutic efficacy, alleviating patients' pain and discomfort, and facilitating their gradual recovery.

3.3 Remove Stagnation and Eliminate Excess Fluids

Qu Yuanchen Cuo refers to promoting blood circulation, resolving blood stasis, and facilitating water metabolism. As stated in the “*Suwen: Explanation of Acupuncture*”: “When Yuanchen is present, it should be removed—this means expelling pathogenic blood.” Here, “Yuanchen” carries the meanings of stagnation and accumulation; “Chen” refers to duration and long-term accumulation; and “Cuo,” originally meaning to remove weeds, now signifies eliminating impurities and obstructions. “Qu Yu Chen Cuo” primarily refers to the removal of accumulated, stale pathological substances from the body, including stasis blood, phlegm turbidity, and other such pathogenic products. Patients with membranous nephropathy often have a prolonged disease course; prolonged illness tends to weaken the body's vital energy, and chronic conditions frequently lead to blood stasis. This can result in abnormal circulation of qi and blood, with stasis blood obstructing the flow. Conversely, stasis blood can also impair water metabolism, exacerbating edema. Removing these accumulated pathological substances helps restore normal circulation of qi and blood and rebalance water metabolism.[8] Simply promoting diuresis without addressing stasis will fail to eliminate the stasis itself, leaving residual stasis that is difficult to fully remove and thus yielding poor clinical efficacy. Therefore, in a broad sense, the “Qu Yu Chen Cuo method” can be divided into two main components: the purgative diuretic method and the method of activating blood circulation to resolve stasis and promote diuresis.

The “attack and drain” method primarily involves using potent purgative herbs to promote the excretion of retained body fluids through bowel movements. In cases of severe edema associated with membranous nephropathy, where pathogenic dampness and water accumulation are rampant,

conventional methods such as promoting urination may prove ineffective or slow to take effect. In such situations, the “attack and drain” method can directly eliminate large amounts of excess fluid from the body, relieving the pressure exerted by edema on the body and thereby alleviating the condition. From the perspective of traditional Chinese medicine, the body’s water metabolism is a holistic process. The large intestine and lungs are mutually related in terms of their physiological functions; moreover, the lungs regulate the body’s water channels. By inducing diarrhea, this method can adjust the qi flow of the internal organs, restore the lungs’ regulatory function, and indirectly improve water metabolism.

Clinically, patients with edema often experience difficulty in bowel movements and persistent abdominal distension. During the progression of renal edema, intestinal dysfunction and intestinal edema are prone to occur, leading to an increase in gut-derived uremic toxins, exacerbation of systemic low-grade inflammation, and immune dysfunction—this is the concept of the “gut-kidney [6] axis.”

The microecological balance of the gut can enhance the body’s immune function and support metabolic processes within the body. Improving the gut microbiota is of great significance in reducing systemic microinflammation, preventing the accumulation of uremic toxins, and alleviating kidney diseases [7]. Moreover, the lungs and the large intestine are mutually related as exterior and interior organs; when lung qi is blocked, turbid yin energy cannot be properly discharged downward. Therefore, promoting lung function, facilitating bowel movements, and eliminating turbid substances can also be effective in relieving renal edema.

The medicinal properties of purgative and diuretic herbs are potent and can easily damage the body’s vital energy, especially the spleen and stomach. Therefore, before using such herbs, it is essential to assess the patient’s constitution and the state of their vital energy. Patients with weak constitutions, poor spleen and stomach function, or pre-existing digestive disorders should use these herbs with caution. Closely monitor the patient’s bowel movements and overall systemic reactions. Generally, the ideal condition is for the patient to have smooth bowel movements and excrete an appropriate amount of watery stool. If excessive diarrhea occurs, leading to dehydration, electrolyte imbalance, or adverse reactions such as nausea, vomiting, or abdominal pain, the herb should be discontinued immediately, and appropriate measures—such as replenishing electrolytes or administering anti-diarrheal medications—should be taken promptly. Traditional Chinese medicine holds that “if blood circulation is impaired, water retention will result,” indicating a close relationship between blood stasis and edema. By promoting blood circulation and resolving blood stasis, the body can facilitate the reabsorption and metabolism of excess fluid as blood flow improves. Traditional Chinese herbs that promote blood circulation and resolve stasis include *Salvia miltiorrhiza*, *Ligusticum chuanxiong*, Peach Kernel, and *Carthamus tinctorius*, as well as herbs that transform phlegm and soften hard masses, such as *Laminaria japonica* and Kelp. The Xuefu Zhuyu Decoction is a representative formula for promoting blood circulation and resolving stasis; it can be modified and adjusted according to the individual patient’s condition. For

patients presenting with phlegm-turbidity obstructing the internal organs, herbs like *Pinellia ternata* and Citrus peel, which help transform phlegm, can be added to the formula. The course of treatment with herbs that promote blood circulation and resolve stasis tends to be relatively long, since the formation of blood stasis is a gradual process, and eliminating it also requires a certain amount of time. During treatment, the dosage and duration of the herbs should be adjusted based on the patient’s improvement in blood stasis, as reflected by changes in tongue appearance, pulse condition, and symptoms. III. Comprehensive Applications and Precautions

3.4 Comprehensive Application

The three therapeutic approaches—“opening the ghost gate, cleansing the fu organ, and removing stagnant fluid”—are often used in combination when treating edema caused by membranous nephropathy. For instance, in patients with severe edema accompanied by signs of blood stasis, while using diuretic drugs, one can also combine them with sweat-inducing herbs to enhance the excretion of excess fluids. Additionally, adding herbs that promote blood circulation and resolve stasis can improve blood flow and eliminate accumulated blood. At the same time, it is beneficial to integrate traditional Chinese medicine’s holistic approach, such as tonifying the spleen and stomach to strengthen their functional capacity for transportation and transformation, thereby preventing the internal generation of dampness and water retention. 2. Precautions

(1) Closely monitor changes in the patient’s condition: During treatment, pay close attention to the patient’s edema resolution, changes in urine output, and renal function indicators. If the patient’s edema worsens, urine output decreases, or other discomfort symptoms appear, promptly adjust the treatment plan.

(2) Individualized Treatment: Each patient with membranous nephropathy has a unique disease condition and physical constitution, and their responses to medications also vary. Therefore, when applying these treatment methods, it is essential to conduct individualized syndrome differentiation and treatment based on each patient’s specific circumstances, and to develop an appropriate treatment plan.

(3) Combining Traditional Chinese Medicine with Modern Medical Treatment: TCM treatment should be integrated with modern medical therapies. Patients with membranous nephropathy may require medications such as immunosuppressants; TCM treatment can serve as an adjunctive approach to reduce the adverse effects of these drugs and enhance overall treatment efficacy. At the same time, it is essential to adhere to modern medical diagnostic and therapeutic guidelines, undergoing regular follow-up examinations and assessments.

(4) Lifestyle adjustments: During treatment, patients should also pay attention to lifestyle adjustments, such as following a low-salt diet, avoiding excessive physical exertion, and maintaining a positive mental attitude. These lifestyle adjustments are also crucial for reducing edema and stabilizing the condition.

4. Summary

Membranous nephropathy falls under the category of chronic kidney disease and is characterized by numerous challenging features. It is relatively difficult to cure, and once an infection occurs, the condition tends to relapse easily, directly leading to a prolonged and persistent course of edema. In clinical treatment, if we can skillfully integrate Traditional Chinese Medicine's unique therapeutic approach—"eliminating stagnant fluids and phlegm, opening the 'ghost gates,' and cleansing the urinary tract"—on top of conventional Western medical treatments such as volume expansion and diuresis, we can achieve remarkably significant clinical outcomes. This combined approach of Chinese and Western medicine can effectively reduce both the dosage and frequency of protein-based medications and diuretics, thereby greatly minimizing the adverse reactions that might otherwise result from long-term use of these drugs. Moreover, it can also alleviate the financial burden on patients to some extent. The essence of the principle "eliminating stagnant fluids and phlegm, opening the 'ghost gates,' and cleansing the urinary tract" lies in its thorough embodiment of the concept of simultaneously addressing both water retention and blood stasis. In clinical practice, membranous nephropathy typically presents as a complex condition marked by underlying deficiency and superficial excess, with deficiency and excess intricately intertwined. Therefore, during treatment, physicians must always pay close attention to carefully distinguishing between deficiency and excess patterns, striving to treat both the root cause and the symptoms simultaneously. At the same time, it is crucial to place great emphasis on regulating organ functions and appropriately managing any concurrent conditions. By comprehensively considering and applying treatment strategies from multiple angles, we can enhance therapeutic efficacy and significantly improve patients' conditions and quality of life. V.

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