

Analysis on the Application of Astragalus Membranaceus in Chronic Glomerulonephritis

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Abstract: *With the continuous acceleration of the pace of modern people's life, the incidence of chronic glomerulonephritis in China is increasing year by year, the disease is complex and easy to recur, the course of the disease is long and the development is slow, and the final result is chronic renal failure, and its treatment has always been the focus of social attention. Western medicine has formed a relatively complete treatment system, but some drugs are expensive and require long-term medication, which is a burden for families with financial difficulties, and there are many side effects and are prone to recurrence. Astragalus membranaceus in Zizhou is one of the top ten Qin medicines, which has the functions of diluting water and reducing swelling, replenishing qi and promoting yang, benefiting health and strengthening the surface, and at the same time tonifying kidney qi, treating kidney wind, nourishing kidney yin, and is widely used in clinical practice. Modern pharmacological studies have found that Astragalus can alleviate edema, reduce proteinuria, enhance immune function, regulate blood pressure, and improve kidney function.*

Keywords: Astragalus membranaceus, Chronic glomerulonephritis, Efficacy and function, Mechanism of action, Clinical research.

1. Introduction

Chronic glomerulonephritis, abbreviated as chronic nephritis, is characterized by proteinuria, hematuria, hypertension, and edema, with different modes of onset, prolonged and slowly progressed, and may be accompanied by varying degrees of renal impairment, and some patients will eventually develop end-stage renal failure [1]. Its high prevalence, many complications, and poor prognosis seriously endanger people's health. Slowing down, preventing and reversing its development process is the focus of research at home and abroad. Many scholars in China have made a lot of clinical observations on the application of astragalus in chronic glomerulonephritis and found that its efficacy is significant. By exploring the application of Astragalus membranaceus in glomerulonephritis, it provides clinical ideas for the treatment of glomerulonephritis, alleviates the condition of patients, improves prognosis, and gives full play to the advantages of traditional Chinese medicine in the treatment of kidney diseases. This article summarizes the pharmacological research, mechanism of action and clinical research in the treatment of chronic glomerulonephritis, aiming to better guide the clinical application and provide a basis for the comprehensive treatment of chronic glomerulonephritis.

2. The Efficacy and Role of Astragalus Astragalus Membranaceus

Astragalus membranaceus, a genus of Astragalus in the legume family, is also known as Mianqi and 100 medicinal cotton. Sweet, slightly warm, return to the spleen and lung meridians, function to replenish qi and promote yang, fix the surface and stop perspiration, dilute water and reduce swelling, nourish blood and nourish the body, stagnate and pass paralysis, support toxin and drain pus, and collect sores and muscles [2]. Its clinical application is widespread, and the theoretical connection between astragalus and kidney has been summarized by ancient and modern doctors, and the arguments are trivial and complex. Based on the research of modern physicians with reference to the more distinctive

arguments in the classics of ancient physicians, three aspects of Astragalus membranaceus tonifying kidney qi, Astragalus membranaceus curing kidney wind, and Astragalus membranaceus nourishing kidney yin are summarized and extracted [3]. The saying that astragalus tonifies kidney qi can be traced back to the Tang Dynasty physician Zhen Quan's "Treatise on Medicinal Properties": "Astragalus is a royal grandson. Treat hair and back, internal supplement, main deficiency and asthma, kidney failure, deafness, treatment of cold and heat [4]." Chronic kidney disease, its deficiency is in the kidney, and the treatment should be more invigorating the kidney." Astragalus greatly replenishes vitality, and is named "the name of the holy medicine of qi replenishment, and it should have its function of benefiting kidney qi." Traditional Chinese medicine believes that the kidney is the foundation of innate nature, and the prosperity and decline of kidney qi affects the function of the five internal organs. Astragalus membranaceus tonifies kidney qi, scavenges free radicals, reduces lipid peroxidative damage, regulates immune function, and delays the aging process of the human body [5]. The disease of kidney wind is mainly characterized by dark complexion, edema, and low back pain. Kidney wind disease needs to be treated from the wind, astragalus is good for water to reduce swelling, dispel internal and external wind, and the wind is removed, and the kidney disease is cured. Modern studies have shown that Astragalus membranaceus does have the effect of diuresis and swelling, increasing plasma albumin, decreasing urine protein, improving vascular endothelial dysfunction, and enhancing platelet function [6]. Astragalus nourishes yin and says, from Zhang Xichun's "Medical Hearts and Western Records". He said: "Astragalus can not only replenish qi, use it properly, but also nourish yin." Zhang Xichun uses astragalus to nourish yin, which is used with his mother. Yin deficiency people mostly have evidence of five heart irritability and night sweats, and the phenomenon of deficiency and heat is the mainstay. Astragalus membranaceus replenishes qi and can raise qi, as follows the yang qi that rises before the rain, and Zhimu is cold and moist and nourishes the yin, as follows the yin qi of the Quartet before the rain, yin and yang are used together, and the heavy

rain will fall, and the heat will dissipate. Astragalus's function of nourishing yin originates from the clear heat of the mother, and the two are compatible, the yang rises and the yin responds, and the cold and heat are peaceful.

3. Research on the Modern Pharmacological Effects of Astragalus

With the continuous development of medical conditions in recent years, great progress has been made in the study of the pharmacological effects of Astragalus. Modern pharmacological studies have shown that Astragalus has a very rich chemical composition and a wide range of pharmacological effects, not only Astragalus membranaceus is widely used in clinical treatment, but also its compound preparations and Astragalus extract are also widely used in the treatment of clinical diseases [7]. Astragalus can improve the body's immune function, diuretic and blood pressure, reduce urine protein, repair renal tubules, and regulate blood lipids, proteins, amino acids, and blood sugar [8].

4. Mechanism of Action of Astragalus in the Treatment of Chronic Glomerulonephritis

4.1 Relieves Edema and Reduces Proteinuria

Flooding of dampness is edema; Renal loss of sealing, known as proteinuria [9]. Zhang Jifeng [10] incorporated losartan potassium combined with astragalus injection into the treatment of patients with chronic glomerulonephritis, and compared various parameters, it was found that astragalus injection could improve the urine protein quantification and renal function indexes of patients. Liu Yandong [11] found that Astragalus membranaceus can increase plasma albumin and correct disorders by regulating glomerular diseases. The protein content of urine is reduced, so as to achieve the effect of correcting lipid metabolism disorders and have a good effect on renal tubular repair.

4.2 Enhance Immune Function

Modern pharmacological studies have shown that Astragalus can effectively improve the phagocytosis of reticuloendothelial cells, effectively promote the increase of the number of leukocytes and multinucleated leukocytes in the blood, and greatly improve the phagocytic percentage and phagocytosis index of macrophages. In addition, astragalus is good for both humoral and cellular immunity facilitating effect. When Astragalus membranaceus was applied, it was seen that the IgM and IgE in the plasma of patients increased significantly, and Astragalus membranaceus had the best effect. At the same time, relevant studies have shown that Astragalus can also effectively promote the formation of hemolysin in the serum of patients, effectively improve the formation of plaques and the hemolytic ability of cells, and have a strong effect of carbon particle clearance and increase spleen weight. It can be seen that Astragalus can effectively adjust the immunocompromised condition of patients, and can also play a two-way regulatory effect, and the application of Astragalus membranaceus can achieve better therapeutic effects in immunocompromised patients [12].

4.3 Regulates Blood Pressure and Improves Kidney Function

Pharmacological experiments have shown [13] that injecting Astragalus injection into the coronary arteries, vertebral arteries, cerebrovascular and other splanchnic blood vessels of experimental dogs can effectively reduce the vascular resistance index, but if injected into the renal artery, it will increase the resistance index of the renal blood vessels. Li Rongying et al. [14] compared the experimental indication changes of Astragalus injection before and after the treatment of patients with chronic renal insufficiency, and found that the blood creatinine of patients decreased after treatment, while hemoglobin increased, which proved that it was effective in alleviating renal anemia. The way to improve kidney function, astragalus is a miracle. Wang Guanfeng [15] also used Astragalus injection as the test input, and the results showed that the main clinical symptoms, signs, and indicators such as creatinine and urea nitrogen showed a trend of relief after treatment. Zhou et al. [16] used radioimmunoassay to explore the effect of Astragalus membranaceus on plasma and urine CGRP in patients with chronic renal insufficiency, and experiments showed that high-dose Astragalus membranaceus was highly effective in correcting low plasma and low CGRP levels in patients. In summary, it can be seen that astragalus can significantly improve kidney function.

5. Clinical Study of Astragalus in the Treatment of Chronic Glomerulonephritis

Zeng Ming et al. [17] found that the three treatment methods of acupoint combination group, astragalus group, and acupoint group could delay the development of chronic glomerulonephritis and protect kidney function. With the extension of treatment time, the treatment effect of the combination group was the best, and the treatment effect of the astragalus group was better than that of the acupuncture group. It was found by Shi Junfeng et al. [18] that Astragalus injection could significantly reduce the urine protein of MesPGN glomerulonephritis, regulate the body's immune function, and have a protective effect on the kidney. And adverse reactions were found at the end of clinical application. Astragalus is easy to use and low in price, and its efficacy in the treatment of proteinuria in some glomerulonephritis is clear, and it is worth applying. Zhang Jun [19] In the process of treating patients with chronic glomerulonephritis with urine protein, the treatment of patients with astragalus injection can significantly improve the treatment effect of patients, reduce the incidence of adverse reactions, and achieve a significant improvement in the living standards of patients, which has great clinical promotion value.

6. Conclusion

The clinical manifestations of chronic glomerulonephritis vary from person to person, and the disease is complex and prone to recurrence, with a long course of disease Long and slow-growing, the end result is chronic renal failure. Western medicine treatment can alleviate the clinical symptoms of patients, but some drugs are expensive, require long-term medication, and have more side effects and are prone to recurrence. In this paper, the application of Astragalus membranaceus in chronic glomerulonephritis was analyzed,

and it was found that the curative effect was significant and had certain clinical value.

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