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News & Comments

Effects of *Tripterygium wilfordi* on diabetic nephropathy patients

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Albuminuria, renal damage, hypertension, and later-stage renal failure are all symptoms of diabetic nephropathy. Diabetic nephropathy affectspercent of Chinese patients with type 2 diabetes, causing physical and mental harm as well as increasing the financial burden on patients. Polyglycosides derived from *Tripterygium wilfordi Hook. F (*Tripterygium wilfordi Polyglycosides) have been shown to be beneficial in the control of pathological markers after 3-6 months of treatment in kidney disorders and diabetic nephropathy.

The goal of the non-randomized retrospective study was to compare the effects of 120 mg/day of Tripterygium wilfordii polyglycosides for 12 weeks, 60 mg/day of Tripterygium wilfordii polyglycosides for 12 weeks, and 160 mg/day valsartan plus 60 mg/day of Tripterygium wilfordii polyglycosides for 24 weeks against those of 160 mg/day vals.

The study was carried out at the Department of Nephrology, Third People's Hospital of Wuxi, China. The associated Hospital of Jiangnan University's review board authorized the designed protocol (February 18, 2021). The study's reporting follows Chinese law and the Helsinki Declarations of v2008. The study recruited 465 diabetic individuals aged 30-70 years old who had a significant quantity of proteinuria (urinary protein excretion of more than 3 g/day) with a history of at least 1 month and a blood creatinine of less than 1.5 mg dL^{-1}. After 24 weeks of therapies, it was expected that at least 155% of patients would have less proteinuria. A total of 127 patients got valsartan (Beijing Novartis Pharmaceutical Co. LTD, Beijing, China) at a dose of 160 mg per day for 24 weeks (VS cohort).

During the study period, 473 patients with type 2 diabetes were diagnosed with diabetic nephropathy (urinary protein excretion >3 g/day with a history of at least one month and serum creatinine 1.5 mg dL^{-1}) at the main hospital's nephrology department and referring hospitals' medical departments. Patients in the VS, TV, and TP cohorts did not achieve a reduction in fasting blood glucose levels after 24 weeks of interventions as compared to pre-intervention values. Incomplete interventions were recorded in 15 individuals. As a result, the data of these 15 patients (n = 15) were not included in the study. Before the interventions, the demographics, clinical, and laboratory data of the enrolled patients were not independent parameters for significant reductions in urine protein excretion. There were no deaths among the individuals who got the therapies for 24 weeks. During the 24 weeks of treatments, patients in the VS cohort reported joint pain, leukopenia, dizziness, vertigo, headache, diarrhoea, weakness, and less. The current study's findings on urine protein excretion were consistent with those

of randomized trials. The sample sizes for both randomized studies are minimal. The outcomes of the current study's serum albumin levels were like those of a randomized trial. For the rise of serum albumin levels with valsartan monotherapy, a longer period of treatments is required. The polyglycosides from Tripterygium wilfordii boost serum albumin production, which reduces the time it, takes for serum albumin levels to rise.

Before the interventions, the demographics, clinical, and laboratory data were not linked to a decrease in urine protein excretion, according to the study. The findings of a meta-analysis and systematic reviewas well as a cross-sectional study did not agree with those of a meta-analysis and systematic reviewand cross-sectional research. It's worth noting that the study's goal was to find options for treating proteinuria in diabetic nephropathy patients, but the usage of Tripterygium wilfordii polyglycosides was not included due to its lack of scientific value.

JOURNAL REFERENCE

Wang, Y.Y., Y.L. Cheng and J.L. Zhang, 2022. Efficacy and safety of Tripterygium wilfordii polyglycosides versus valsartan in management of diabetic nephropathy. Int. J. Pharmacol., 18: 455-465.

KEYWORDS

Diabetic nephropathy, hyperkalemia, proteinuria, valsartan, serum albumin, *Tripterygium wilfordi*