

中文題目：以益生菌延緩異常腎功能惡化

英文題目：Probiotics could retard the progression of renal dysfunction in patients with chronic kidney disease

作者：王怡寬^{1,2}，黃彥宇³，何協勳³，賴彬卿¹

服務單位：¹中國附醫腎臟科，²中國醫藥大學醫學院，³豐華生物科技

Background: The aim of the present study was to evaluate whether probiotic administration could retard the progression of renal dysfunction.

Method: Patients with stage 3–5 CKD and not on dialysis were recruited from June 2018 to August 2021. Two capsules of probiotics, each containing 2.5×10^9 CFU *Lactobacillus acidophilus* (TYCA06), *Bifidobacterium longum* subspecies *infantis* (BLI-02), and *Bifidobacterium bifidum* (VDD088), were administered twice daily for 12 months. The decline in the estimated glomerular filtration rate (eGFR) was measured before and after intervention. In addition, changes in blood pressure, fasting glucose and glycated haemoglobin in diabetic patients, serum endotoxin, pro-inflammatory cytokines, uremic toxins and short-chain fatty acid acids levels, and gastrointestinal symptoms scores were measured.

Results: Thirty-three patients completed the 6-month study. The mean baseline eGFR was 39.24 ± 12.78 ml/min/1.73 m². The rate of decline in the eGFR was significantly slower, from -0.52 (-0.59 , -0.09) to 0.18 (0.00 , 0.53) ml/min/1.73 m²/month ($P < 0.001$), after the 12-month treatment. There was significant reduction in systolic blood pressure levels, the serum levels of TNF- α , IL-6, IL-18, endotoxin, and indoxyl sulfate after probiotics administration. Serum levels of acetic acid and propanoic acid significantly increased after 6-month and 12-month intervention, respectively. Furthermore, HbA1c decreased in diabetic patients (Table 5). The scores for ease of defecation, borborygmus and flatulence increased significantly after the 12-month intervention.

Conclusion: Probiotics might attenuate renal function deterioration in CKD patients through multifaceted benefits.

Key words: Chronic kidney disease, probiotics, renal function

關鍵字：慢性腎病，益生菌，腎功能