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THE PROTECTIVE EFFECT OF SACRED LOTUS LEAVES EXTRACT AGAINST DIABETIC NEPHROPATHY

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The demand of the herbal supplement for decreasing the risk of diabetic nephropathy is increasing due to the increasing diabetes and the crucial role on end stage of renal diseases of diabetic nephropathy. Based on the crucial roles of oxidative stress and polyol pathways on diabetic nephropathy, we hypothesized that the extract of sacred lotus leaves possessing hypoglycemic, antioxidant and aldose reductase suppression activities could prevent diabetic nephropathy. To elucidate this issue, we aimed to determine the protective effect against diabetic nephropathy induced by Streptozotocin (STZ) of extract of sacred lotus leaves. The possible underlying mechanism was also explored. Male Wistar rats weighing 200-250g were induced diabetic condition by using STZ (55mg/kg BW). Rats with the blood sugar ≥250mg/dL were recruited for determining the anti-diabetic nephropathy effect. The extract of sacred lotus leaves at doses of 1.10 and 100 mg/kg were orally given to the experimental animals once daily for 8 weeks. At the end of study, they were determined blood sugar, albumin urea, the levels of blood urea nitrogen (BUN) and creatinine together with the activity of lactate dehydrogenase (LDH) in serum. The alterations of oxidative stress markers and renal histology were also carried out. The extract at all doses used in this study could decrease albumin urea and serum creatinine in diabetic rats. In addition, they also improved histopathology of kidney. These data indicated that the extract could improve pathology of kidney giving rise to the improved kidney function. The principal mechanism of action might not occur via the decreased oxidative stress in kidney. However, the précised underlying mechanism is still required further investigation.

Biography

P Wannanon is a Medical Doctor and she is the staff of Integrative Complementary Alternative Medicine Research and Development Center and Department of Physiology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand. She has published more than 10 papers in reputed journals.

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