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Protective effect of tropical herb—*Alpinia oxyphylla* compound formula on diabetic nephropathy mice

Fan Yang[#], Qian Niu[#], Yi-qiang Xie, Kun Niu[✉]

College of Traditional Chinese Medicine, Hainan Medical University, Haikou 571199, China

Objective: To observe the mechanism of *Alpinia (A.) oxyphylla* in the treatment of diabetic nephropathy by regulating blood glucose level.

Methods: A total of 40 db/db diabetic nephropathy mice were randomly divided into four groups including model group, irbesartan group, *A. oxyphylla* compound formula high dose group and *A. oxyphylla* compound formula low dose group with 10 in each group. Ten normal mice served as normal control group. Normal group and model group were given normal saline only. Irbesartan group and *A. oxyphylla* compound formula high and low dose group were given corresponding drugs once a day for 4 weeks (about 0.2 mL, once a day). Blood glucose, BUN, urine protein, SCr excretion, GSH and CAT activity were detected.

Results: Compared with normal group, the blood glucose of model group were increased significantly ($P < 0.05$). While compared with model group, the blood glucose of irbesartan group and *A. oxyphylla* compound formula groups (both high and low dose) decreased significantly after 4 weeks' treatment. Compared with model group, 24 h urine protein, BUN and SCr of *A. oxyphylla* compound formula groups (both high and low dose) decreased significantly ($P < 0.05$) after 4 weeks' treatment. Compared with normal group, GSH, CAT of model group decreased significantly ($P < 0.05$). While compared with model group, GSH, CAT of irbesartan group and *A. oxyphylla* compound formula high dose group increased significantly ($P < 0.05$).

Conclusions: *A. oxyphylla* compound formula can protect diabetic nephropathy mice by reducing the blood glucose level, decreasing the excretion of urine protein, BUN, SCr, and increasing the activities of CAT and GSH.

Keywords: Mechanism; Tropical herb; *Alpinia oxyphylla* compound formula; Diabetic nephropathy; Blood glucose level

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[#]These authors contributed equally to this work.

[✉]Corresponding author: Kun Niu, College of Traditional Chinese Medicine, Hainan Medical University, Haikou 571199, China.
E-mail: kunniniu@163.com

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