Effect of Gardenia jasmindides Ellis Extract on Plasma Glucose and Insulin Sensitivity

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ABSTRACT

Diabetes is a metabolic disorder, the defects of insulin secretion or insulin action affect the sugar, fat and protein into the metabolic syndrome. World Health Organization WHO, diabetes is divided into three categories: type 1 diabetes (Type 1), type 2 diabetes (Type 2), pregnancy diabetes, which accounted for 90% of patients with type 2 diabetes. Insulin reisitance is a major factor leading to type II diabetes. Insulin reisitance is that normal insulin level cannot normally react with the tissue of adipose, muscle and liver.. etc. to produce normal reaction of insulin. In the previous literatures of Gardenia Jasmindides Ellis have been proposed with lower blood glucose, insulin, and lipid to improve diabetes activity, but the mechanism is not yet fully established. In this study, normal rats were fed different concentrations of Gardenia Jasmindides Ellis extracts to find the best hypoglycemic dose, and used the steroid-induced insulin reISItant rats (SIIR) to observe whether exits the effect of lowering blood glucose or not. Then, on the steroid-induced insulin reISItant rats, for study the improving effect of insulin sensitivity, the plasma free fatty acids were assayed, to investigate the effect of gardenia extracts to improve insulin sensitivity by the impact of blood free fatty acids. . The results showed: Gardenia extracts showed hypoglycemic effect of feeding dose 200 mg/kg with better hypoglycemic activity in normal rats. And steroid-induced insulin reISItant rats also have significantly hypoglycemic effect. In the assessment of insulin sensitivity, the gardenia extracts performed increasing insulin sensitivity, but the change plasma free fatty acids (FFA) cannot reach the statistical significant difference. The improving insulin sensitivity effect of gardenia extracts may be not through the changing plasma FFA. Also, the feeding time is shorter to can not show results, we must further study of gardenia extracts in plasma FFA. Conclusion: This study found that the extracts of Gardenia Jasmindides Ellis in the dose 200mg/kg, has a significant hypoglycemic effect and can improve the insulin reISItaance on steroid-induced insulin reISItant rats. It has the potential to develop the gardenia as an insulin sensitizer in the future.

Keywords : diabetes、glucose、insulin、free fatty acids、Gardenia jasmindides Ellis、insulin sensitizers

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