ABSTRACT

With cultural changes in diet, the morbidity of obesity and metabolic diseases are more increasingly, such as hyperlipidemia, hyperglycemia and hypertension. How to reduce the incidence of Type II diabetes or improve the therapeutic effectiveness has been the subject of attention. In this study, we used streptozotocin (STZ), Nicotinamide (NA), and λ-Carrageenan (Carr) to establish the experimental animal model that combined type II diabetes with acute inflammation. We used Diclofenac and Glibenclamide as the treatment-control group. The purpose of this experiment was to observe the ability of Mangiferin on improving blood sugar and inflammatory cytokines, to infer the possible mechanism of Mangiferin on insulin resistance. The results showed that the blood glucose level of mice treated with STZ and NA were increased at 5 days. Mangiferin (20 mg/kg and 40 mg/kg) decreased the blood glucose level induced by STZ plus NA at 5 days. Serum ALT, AST, IL-6 and TNF-α were increased in STZ-Nicotinamide-λ-Carrageenan-induced type II diabetes and acute inflammation mice. But Mangiferin (20 mg/kg and 40 mg/kg) could decreased them significantly. These results indicated that Mangiferin can reduce STZ and NA induced hyperglycemia and liver injury, and its mechanism may be associated with improving inflammatory cytokines associated insulin resistance.

Keywords: Mangiferin, Type 2 diabetes, insulin resistant, inflammatory cytokine

REFERENCES