Beneficial effect of Myricetin on glucose metabolism in STZ-Cd induced diabetic nephrotoxic rats

N. Kandasamy and N. Ashok Kumar
Department of Biochemistry and Biotechnology, Annamalai University, India

Myricetin is a naturally occurring flavonol used in various diseases. The present study was performed to evaluate the effect of myricetin on glucose metabolism in STZ-Cd induced diabetic nephrotoxic rats. The rats were injected with STZ intraperitoneally at a single dose of 40 mg/kg b.w and Cadmium as CdCl₂ (100 p.p.m) in drinking water for 12 weeks. The rats were divided into 4 groups viz. Group 1 and 2 served as control and Myricetin control. Group 3 is diabetic nephrotoxic control and group-4 is diabetic nephrotoxic rats treated with Myricetin. All rats were sacrificed at the end of the experimental period. The diabetic nephrotoxic rats showed a significant increase in levels of plasma glucose, glycosylated haemoglobin and a significant decrease in the levels of insulin and total haemoglobin. In addition, diabetic nephrotoxic rats showed a significant reduction in the activities of hexokinase, glycogen synthase along with glycogen content. The activities of glucose-6-phosphate, fructose-1, 6-bisphosphate and glycogen phosphorylase were significantly elevated in diabetic nephrotoxic rats. Intraperitoneal treatment of Myricetin (1.0 mg/kg b.w) that modulate glucose metabolism in STZ-Cd rats. The results of this study suggest that Myricetin showed a significant beneficial effect due to its antihyperglycemic properties.

Samy_megha@yahoo.co.in