



Effects of curcumin and its nano-micelle structure form on body weight, insulin resistance, adiponectin, and blood biochemical parameters of streptozotocin-induced diabetic rats

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Abstract

The effects of curcumin and its nano-micelle form on body weight, insulin resistance, adiponectin, and blood biochemical parameters of streptozotocin-induced diabetic rats were studied. Fifty male wistar rats were induced diabetes and divided into 5 groups and treated with 1) no dietary supplements, 2 and 3) 40 and 80 mg/kg curcumin, 4 and 5) 40 and 80 mg/kg nano-micelle curcumin. A group of 10 untreated male wistar rats was also considered as healthy control. The serum concentrations of AST, ALT, glucose, insulin, insulin resistance, triglycerides, cholesterol, HDL-C, LDL-C and adiponectin were assessed. Body weight and weights of liver, heart and pancreas were also evaluated. Induction of diabetes increased the serum concentrations of AST, ALT, glucose, triglycerides, cholesterol, LDL-C and insulin resistance and decreased the serum concentrations of insulin, adiponectin, and HDL-C, and also body weight and weights of heart and pancreas ($P<0.05$). Nano-micelle form of curcumin alleviated the negative effects of diabetic rats for glucose, lipid profile, and liver enzymes ($P<0.05$).

In conclusion, nano-micelle form of curcumin showed better efficiency compared to curcumin for alleviating the adverse effects of diabetes. It can be suggested that nano-micelle form of curcumin at specific doses can be used for diabetes treatment.

Keywords: Curcumin, Nano-curcumin, Diabetic animals, Insulin resistance, Lipid profile



BIOGRAPHY

I am Hamed Dadgar and I completed my PhD at Ferdowsi University of Mashhad in Iran.

I have published several articles in various journals and I have also presented papers and articles in more than twenty domestic and foreign conferences

According to My Research Branch which is Based on the Factors Related to Diabetes and the Effects of Nutrition on Reducing and Improving the Symptoms related to Diabetes, We can achieve Good and Acceptable Results in the Near Future.

He has been serving as an editorial board member of several reputed journals.

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