

Anti-obesity potential of isolated demethoxycurcumin against high fat diet induced obesity in albino wistar rats

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As obesity has become a major lifestyle health problem in the world, the present study was designed to investigate the possible anti-obesity and hypolipidemic effect of demethoxycurcumin (DMC), a bioactive phenolic component of turmeric spice, for the first time, using *in vivo* anti-obesity models and to explore the linking mechanism behind it by evaluating bodyweight, food intake, lipid profiles, renal, hepatic, cardiac function markers, lipid peroxidation, and the glucose and insulin levels in blood and liver tissue in rats.

Rats (80-100 gms) were divided into 4 groups with n=6. Group 1 served as control and was fed with normal diet. All other animals were treated with high fat diet for 14 continuous weeks which was followed by its equal distribution in three equal groups. Group 2 received HFD with no supplement; Group 3 received DMC (20 mg/kg) + HFD. DMC was started administered at 10th week from the start time for the treatment. Group 3 received DMC (40 mg/kg) + HFD.

Body weight, lipid profile & renal function (urea, uric acid creatinine) ALT & AST activities, cardiac markers, (LDH, C.K-NAC and MB) the oxidative stress marker reduced glutathione (GSH), and malondialdehyde (MDA) catalase activity, in addition to glucose, insulin, and insulin resistance in serum & tissues were analysed.

Results revealed that HFD significantly increased final body weight, triglycerides (TG), total cholesterol, & LDL concentration compared with controls. DMC treatment significantly improved obesity and its associated metabolic problems in different degrees in experimental animals proving its distinct anti-obesity effect.

Biography

Sumeet Gullaiya has completed his Ph.D. (Pharmacology) at the age of 29 years from Delhi Institute of Pharmaceutical Sciences and Research, University of Delhi, India. He is working as assistant Professor in Amity University, a premier research oriented academic organization. He has published more than 15 papers in reputed journals of national and international repute. He is also serving as an editorial board member and reviewer for reputed journals.

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