

Anti-obesity effect of cinnamaldehyde in high fat diet induced obese rats

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From National Conference on Natural Products as therapeutics, Medical Microbiology, Nanobiology and System biology: Current Scenario & Emerging Trends, 'NATCON-2014'.

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18-19 September 2014.

American J of Bio-pharm Biochem and Life Sci 2014 September, Vol. 4 (Suppl 1): P 09

ABSTRACT

The current study was undertaken to evaluate the efficacy of Cinnamaldehyde (CA) supplemented diet in management of obesity in high fat diet (HFD) fed rats. 30 adult male rats were assigned to five group of 6 rats each; the standard diet group (N); the HFD group; HFD supplemented with Orlistat (OR); group IV and V animals received CA at a dose level of 40, 80 mg/Kg body weight (CA-I, CA-II) along with HFD for 8 weeks. Obesity induced group of rats showed significant ($p < 0.001$) increase in body weight, feed consumption, Glucose, Leptin, TG, TC, LDL-c, VLDL-c in serum, AI, CRI and decrease in HDL-c level ($p < 0.001$) compared with the normal group of rats. The BWG and FER were reduced in CA treated rats. CA treatment also resulted in significant ($p < 0.001$) decreases in serum Glucose, Leptin, TC, TG, LDL-c, AI and CRI and increase ($p < 0.001$) HDL-c concentrations in a dose dependent manner compared with untreated obese rats. These results were comparable with Orlistat, a standard anti-obesity drug. Significantly increased lipid levels were discharged in faeces during the supplementation of CA and OR. CA treatment with group V animals was more effective in reducing the physiological parameters and biochemical profiles to near normalcy. These preliminary results revealed that CA supplementation was beneficial in suppressing obesity in HFD fed rats. So, CA can be taken up for further studies leading to a novel therapeutic drug for obesity.