

ANTI-OBESITY EFFECT OF BERBERINE AND GERMINATED BROWN RICE IN HIGH FAT DIET-INDUCED OBESE RATS

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Berberine (BBR), from *Rhizoma Coptidis*, is an oral hypoglycaemic agent possesses anti-dyslipidemia and anti-obesity activities. Germinated brown rice (GBR), an innovative functional food, enriched of fiber and bioactive compounds, characterized by promising health features. This study has been concerned with investigation of the therapeutic effects of BBR as dietary supplement and GBR as a whole food on diet -induced obese rats. 40 male Sprague-Dawley rats were randomly classified into four groups, which were fed either a normal control diet (NC), a high fat diet (HFD), HFD+BBR orally administered (200 mg/kg body weight), HFD+GBR (35%) for 8 weeks. The results demonstrated that, relative to HFD rats, BBR reduced weight gain and adipose tissue weight aside from serum glucose, triacylglyceride (TAG) and total cholesterol (TC) levels in rats from HFD+BBR group were significantly reduced than those of the HFD group as were the levels of serum insulin and leptin. Beside GBR administration significantly decreased body weight gain, lipid accumulation in the live and epididymal adipose tissue as compared to the HFD control group. As well, serum TAG, TC and glucose level were significantly decreased by following GBR administration compared to HFD group whereas the high density lipoprotein (HDL) cholesterol level increased. Furthermore, the administration of GBR had reduced adiposity by showing deviation in white adipose tissue mass, adipocytes extent and leptin level accompanying with a great proportion of fat excretion into stools. In conclusion, our finding suggest that BBR and GBR showed similarity effects in ameliorative obesity by suppressing body weight gain and lipid accumulation in liver, beneficent lipid profiles and reducing leptin level also white adipose tissue mass in obese rats fed on HFD.

Biography

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