Houttuynia Cordata Thunb. Extract Attenuates Dyslipidemia in High-Fat-Diet-Induced Obese Rats

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Background and objective: Obesity has been increasing continuously around the world including Thailand for two decades. Obesity is associated with hypertension, type 2 diabetes mellitus, and dyslipidemia, which have high oxidative stress, and inflammation. Extract of *Houttuynia cordata* Thunb. (HE), a herb that had the action of anti-oxidant and anti- inflammation. Therefore, the objective of this study was to investigate the effect of HE on weight gain and dyslipidemia in high-fat-diet-induced obese rats.

Methods: Twenty-four male Sprague-Dawley rats were divided equally into three groups. Each group was fed with different diet for 12 weeks. The first group (control group) was fed with normal standard rat chow diet. The second group was fed with high-fat diet and the third group was fed with high-fat diet containing 1%HE. Body weight and food intake were measured throughout the study. Fasting blood samples were collected to measure lipid profiles, sugar, and insulin after the treatment.

Results: The addition of 1%HE to the high-fat diet significantly ($p<0.05$) prevented weight gain about 12%. Cholesterol, triglycerides, and low density lipoprotein were significantly decreased from 117.86±2.43 to 94.38±1.44 mg/dL, 93.43±5.94 to 69.25±4.58 mg/dL, and 50.29±3.63 to 38.63±2.01 mg/dL, respectively ($p<0.05$) after the HE treatment. The HE also reduced blood sugar (18%) significantly in obese rats ($p<0.05$). However, high density lipoprotein, and insulin did not change after the HE treatment.

Conclusions: HE had anti-obesity effect and reduced dyslipidemia in high-fat-diet-induced obese rats. Thus HE may be suggested to be an alternative treatment for dyslipidemia in obesity.

Keywords: Herb, lipid profiles, weight gain, diet

Poster