

Effects of Various Types of Dongchunghacho on Lipid and Protein Metabolism in Rats Fed with High Fat-Cholesterol Diet

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Dongchunghacho has been known for having various biological activities in Chinese traditional medicines. However, the biological effects of newly developed species remain to be elucidated continuously. The aim of this study was to investigate the effects of newly developed Dongchunghacho (*Coedyceps sphecocephala*, *Paecilomyces* spp. and *Paecilomyces tenuipes*) on lipid and protein metabolism in rats fed with high fat and high cholesterol diet. The 38 of 8 wk-old male Sprague-Dawley rats were divided into five groups after 2 weeks of adaptation period and fed with normal diet, high fat (17 g/100 g) and high cholesterol (1 g/100 g) diet, high fat and high cholesterol diet supplemented with 3% of either *C. sphecocephala*, (*Bee Dongchunghacho*), *Paecilomyces* spp. or *Paecilomyces tenuipes* (PT) for 30 days. The plasma concentration of total cholesterol, LDL-cholesterol and the atherogenic index were significantly lower in *Paecilomyces* spp. and PT groups than in the high fat and high cholesterol diet group and showed almost similar values to normal diet group. HDL-cholesterol concentration increased significantly in *Paecilomyces* spp. and PT groups compared to high fat and high cholesterol diet. However, the high fat and high cholesterol diet supplemented with 3% of *C. sphecocephala* (*Bee Dongchunghacho*) showed to accelerate atherogenic effect on the contrary. The plasma concentration of triglycerides and other parameters related to protein metabolism such as total protein, albumin, uric acid, creatinine and total bilirubin were not affected by either types of Dongchunghacho. Our results indicate that the newly developed *Paecilomyces* spp. and *Paecilomyces tenuipes* can improve plasma lipid profiles in rats fed with high fat and high cholesterol diet.