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Effects of *Paecilomyces tenuipes* Cultivated in Egg Yolk on Lipid and Antioxidant Metabolisms in High Fat-Cholesterol Fed Rats

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The cultivation technique of *Paecilomyces tenuipes* using eggs as culture medium has been newly developed in our laboratory. We investigated the effects of the fruiting bodies of cultivated fungus of *P. tenuipes* grown on egg yolk on lipid and antioxidant metabolisms in rats fed with high fat and high cholesterol diet. The 40 of 8 wk-old male Sprague-Dawley rats were divided into four groups after 1 weeks of adaptation period and fed with high fat (17g/100g)-high cholesterol (1g/100g) diet (control), high fat-high cholesterol diet supplemented with 1, 3 or 5 % Egg Dongchunghacho. After 30 days, Egg Dongchunghacho supplements significantly lowered plasma concentration of total lipid, total cholesterol, LDL-cholesterol and the atherogenic index, compared to the control group. The hepatic total lipid and total cholesterol were also significantly lower than in the high fat-high cholesterol diet group. The hypolipidemic activity of Egg Dongchunghacho were more effective by increasing it's concentration except plasma HDL cholesterol and triglyceride and hepatic triglyceride. HDL-cholesterol and triglyceride concentration in plasma were not affected by Egg Dongchunghacho supplementation. The hepatic triglyceride decreased in 1% supplemented group, while it increased in 5% supplemented group compared to the control group. Plasma conjugated dienes was significantly lower in 4 and 5% supplemented groups than in the control or 1% supplemented group. Plasma TRAP, antioxidant enzyme activities in the erythrocyte (SOD, CAT, GSH-Px) or leukocytic DNA damage were not statistically different among the groups. The 3 and 4% supplementation of egg Dongchunghacho significantly lowered plasma AST and ALT activities. Our results indicate that the Egg Dongchunghacho can improve plasma and hepatic lipid profiles and plasma lipid peroxidation in rats fed with high fat and high cholesterol diet.