3-3-10. Effects of Dongchunghacho rice on Plasma and Hepatic Lipid Profiles in Rats Fed with High Fat-Cholesterol Diet

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Dongchunghacho rice, produced by cultivating Dongchunghacho fungus on rice, could be a effective functional food because it offers added value to rice and thus increases rice consumption. However, the physiological effect of Dongchunghacho rice has not been reported yet although its increasing consumers demand. Therefore, we investigate the effect of Dongchunghacho rice (unpolished rice cultivated with *Cordyceps militaris*) on lipid metabolism in hyperlipidemic rats. The 48 of 8 wks-old male Sprague-Dawley rats were divided into eight groups after 1 weeks of adaptation period and fed with normal diet (66% rice as carbohydrate source), high fat (17 g/100 g)-high cholesterol (1 g/100 g) diet (53% rice), high fat-high cholesterol diet supplemented with 10, 20, 30% unpolished rice or 10, 20, 30% Dongchunghacho rice of 53% rice. After 30 days, the plasma concentration of total cholesterol was lowest in 10% Dongchunghacho rice supplemented group. Plasma LDL-cholesterol, HDL-cholesterol:total cholesterol and the atherogenic index were lowest in 20% Dongchunghacho supplemented group. Dongchunghacho rice led to less total lipid and total cholesterol accumulation in liver. This hypolipidemic effect of Dongchunghacho rice seemed to be unrelated to unpolished rice itself, because the plasma and hepatic lipid profiles of 10, 20, 30% unpolished rice supplemented group were not different from that of high fat-high cholesterol group. The plasma concentration of triglycerides and HDL-cholesterol were not affected by Dongchunghacho rice. These results suggest that unpolished rice cultivated by *Cordyceps militaris* can improve plasma and hepatic lipid profiles in rats fed with high fat-high cholesterol diet.