Modulation of lipid metabolism by Centella asiatica in oxidative stress rats.

ABSTRACT

A study was carried out to investigate the effects of Centella asiatica leaf on lipid metabolism of oxidative stress rats. The rats were fed 0.1% hydrogen peroxide (H2O2) with either 0.3% (w/w) C. asiatica extract, 5% C. asiatica powder (w/w), or 0.3% (w/w) α-tocopherol for 25 wk. Results of the study showed that C. asiatica powder significantly (P < 0.05) lowered serum low-density lipoprotein compared to that of control rats (rats fed H2O2 only). At the end of the study C. asiatica-fed rats were also found to have significantly (P < 0.05) higher high-density lipoprotein and lower triglyceride level compared to rats fed only normal diet. However, cholesterol level of rats fed both C. asiatica extract and powder was found to be significantly (P < 0.05) higher compared to that of control rats. It was interesting to note that consumption of C. asiatica significantly decreased body and liver weights of the rats. Histological examinations revealed no obvious changes in all rats studied. Quantitative analysis of C. asiatica leaf revealed high concentration of total phenolic compounds, in particular, catechin, quercetin, and rutin.

Keyword: Antioxidants; Centella asiatica; Cholesterol, Flavonoid; HDL; LDL; Oxidative stress; Triacylglycerol.