

Protective effect of *Centella asiatica* extract and powder on oxidative stress in rats

ABSTRACT

The effect of *Centella asiatica* extract and powder in reducing oxidative stress in SpragueDawley rats was evaluated. Lipid peroxidation was monitored by measuring malonaldehyde (MDA) level in blood. Activities of free radical-scavenging enzymes (superoxide dismutase and catalase) were determined using H₂O₂ decomposition and nitrobluetetrazolium reduction, respectively. Results showed that administration of H₂O₂ (0.1%) in drinking water of the rats, for 25 weeks, increased the malonaldehyde levels in erythrocytes of all the rats. However, rats receiving *C. asiatica* extract, powder and a-tocopherol had lower MDA levels than did the other rats, which indicates, decrease lipid peroxidation in these rats. Increase in catalase activity of the rats appears to be a response to H₂O₂ accumulation. The decrease in the activity of superoxide dismutase in *C. asiatica*- and a-tocopherol supplemented rats suggested a lower requirement for the enzyme and this indicates the protective effect of the plant in combating oxidative stress undergone by the rats. Results revealed that *C. asiatica* extract and powder may ameliorate H₂O₂-induced oxidative stress by decreasing lipid peroxidation via alteration of the antioxidant defence system of the rats.

Keyword: *Centella asiatica*, Oxidative stress, Malonaldehyde, Antioxidant enzymes