



Inhibitory Effect of Theanine on Hepatic and Renal Injury in Mice Exposed to Unpredictable Chronic Mild Stress

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SUMMARY. In the present study, the effects of theanine on hepatic and renal injury in mice exposed to unpredictable chronic mild stress (UCMS) were investigated. Mice were subjected to the exposure to unpredictable stressor daily for 5 consecutive weeks, with theanine administered (2 and 4 mg/kg, i.g.) for consecutive 3 weeks from the 3rd week. Our experiment showed hepatic and renal indices were sensitive to UCMS except the renal functional indices. However, theanine (2 and 4 mg/kg) decreased the malondialdehyde (MDA) content, meanwhile, increased the glutathione (GSH) content and the activities of superoxide dismutase (SOD) and catalase (CAT) in the liver and kidneys. Moreover, theanine treatment significantly ameliorated the hepatic function, also, decreased the tumour necrosis factor- α (TNF- α) levels in the liver and the kidneys. These findings suggested that theanine possesses the effect against the UCMS-induced hepatic and renal impairment and the underlying mechanism is related to its antioxidative and anti-inflammatory properties.

KEY WORDS: Kidney, Liver, Theanine, UCMS.

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