

# Prophylactic Effect of Aqueous Propolis Extract against Acute Experimental Hepatotoxicity *in vivo*

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Propolis has been extensively used in folk medicine for the management of a wide spectrum of disorders. In a previous study, we demonstrated the protective effect of the aqueous propolis extract (APE) against the injurious effects of carbon tetrachloride (CCl<sub>4</sub>) on hepatocytes *in vitro*. The present investigation was carried out to show whether the hepatoprotective effect of the extract could also be manifested *in vivo*. Rats were given APE orally for 14 consecutive days, before being subjected to a single intraperitoneal injection of CCl<sub>4</sub>. One day after the CCl<sub>4</sub> injection, the animals were sacrificed, hepatocytes were isolated and liver homogenates were prepared for the assessment of liver injury. In isolated hepatocytes, APE afforded protection against CCl<sub>4</sub>-induced injury as manifested by a decrease in the leakage of the cytosolic enzyme lactate dehydrogenase (LDH), decreased generation of lipid peroxide and maintenance of cellular reduced glutathione (GSH) content. In principle, similar findings were observed in liver homogenates. The present findings show that APE has *in vivo* hepatoprotective potential which could be attributed at least in part to the maintenance of cellular GSH content. The latter effect seems to play an important role in conserving the integrity of biomembranes as it was associated with a decrease in lipid peroxidation and reduced leakage of cytosolic LDH.