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Anticancer potential of *Euphorbia neriifolia* leaves and isolated flavonoid against N-nitrosodiethylamine-induced hepatocarcinoma in mice

Pracheta Janmeda
Banasthali University, India

Protective effect of hydro-ethanolic extract of *Euphorbia neriifolia* leaves and an isolated flavonoid was investigated against N-Nitrosodiethylamine induced hepatocarcinoma in mice. Experimental mice were pretreated with 150 and 400 mg/kg body wt of EN, 0.5% and 1% mg/kg body wt of butylated hydroxyanisole as a standard antioxidant and 50 mg/kg body wt of ENF for 21 days prior to the administration of a single dose of 50 mg/kg body wt of DENA. Levels of liver markers (AST, ALT & ALP), xenobiotic metabolic enzymes (Cyt P450 and Cyt b5), lipid peroxidation, antioxidants (SOD, CAT, GST and GSH) and other biochemical parameters TP and TC were measured to determine the hepatocarcinoma caused by DENA. DENA administration significantly ($p < 0.001$) decreased the body weight and increased the tissue weight. Activities of liver markers, antioxidants and TP content were significantly decreased ($p < 0.001$), while Cyt P450, Cyt b5, LPO and TC levels were significantly ($p < 0.001$) increased after DENA administration as compared with the normal control group ($p < 0.001$). Pretreatment with EN and ENF counteracted DENA-induced oxidative stress (LPO) and exerted its preventive effects by restoring the levels of liver markers (AST, ALT and ALP), antioxidants (SOD, CAT, GST and GSH) and other biochemical parameters (TP and TC) and xenobiotic enzymes (Cyt P450 and Cyt b5) in liver tissue. In conclusion, the present study showed significant anti-carcinogenic potential of the hydro-ethanolic extract of *E. neriifolia* and ENF against DENA induced hepatic carcinogenicity.

pracheta.25@gmail.com