Republic of Yemen

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Therapeutic and preventive effects of *Commiphora gileadensis* against diethylnitrosamine-induced hepatic injury in albino rats

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ABSTRACT

Commiphora gileadensis is a tree in the burseraceae family, cultivated widely in Hadhramaut governorate (Yemen) and known locally as "Besham" or Balsam" used traditionally for many ailments. The aim of this study was to evaluate the therapeutic and preventive effects of *C. gileadensis* against diethylnitrosamine (DEN) -induced hepatic injury in albino rats. 40 albino rats were divided randomly into five groups (each containing 8 animals). Group I (negative control) was given normal saline i.p and distilled water, group II (Positive control) toxicity-initiated with a single dose of DEN 200 mg/kg i.p and promoted after 2 weeks with 0.05% of phenobarbitone in drinking water to complete 10 weeks. Group III was given 500 mg/kg extract of *C. gileadensis* bark for 10 weeks. Groups IV (preventive group) was pretreated with 500 mg/kg extract of *C. gileadensis* bark and injected with DEN 200 mg/kg i.p for 10 weeks. Group V (Treatment group) was given a single dose of DEN same as group II but for 6 weeks, then treated with 500 mg/kg *C. gileadensis* bark extracts orally for an additional 4 weeks. All doses were used according to the effective dose fixation. Liver function enzymes, complete blood count (CBC) and lipid profile were measured. In addition, fasting blood sugar (FBS) and total body weight were taken weekly. At the end of the experiment relative weight of the liver was calculated. *C. gileadensis* showed a significant hepatoprotective effect as it reduced the liver function enzyme's level, this effect was supported by hepatic histopathological improvement against DEN-induced hepatic injury. In addition, it demonstrated potent anti-platelets activity. The outcomes of this study suggested that *C. gileadensis* has a novel hepatoprotective and remarkable anti- platelets effect.

Keywords: *Commiphora gileadensis*, diethylnitrosamine, phenobarbitone, hepatic injury.