



## PHYTO-CHEMICAL, BIOCHEMICAL AND HISTOLOGICAL EVALUATION OF AQUEOUS ETHANOLIC STEM-BARK EXTRACT OF *ENANTIA CHLORANTHA* ON PARACETAMOL-INDUCED LIVER DAMAGE IN RATS

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### ABSTRACT

*Enantia chlorantha* is widely used in herbal medicine for the treatment of several ailments namely, jaundice, malaria, fever, infective hepatitis among several other uses. This study investigated the phyto-chemical constituents of stem-bark of *Enantia chlorantha* and hepatoprotective effects on paracetamol-induced toxicity. Aqueous ethanol extract of *Enantia chlorantha* was prepared by soxhlet extraction in 70% ethanol and phytochemical analysis carried out using standard protocol. Twenty five adult Wistar rats of both sexes were randomly allocated into five groups. Group 1 rats served as control and received 10ml of phosphate buffered saline, Group 2; 300 mg/kg of orthodox drug Essential forte for 14 days and Paracetamol (PCM) for 14 days, Group 3; 300 mg/kg of PCM only, Group 4; 300 mg/kg of extract for 14 days and PCM for 14 days while group 5 rats received 500 mg/kg extract for 14 days and 500 mg/kg of PCM for 14 days. Histological analysis of the liver of treated animals was carried out using standard protocol. *Enantia chlorantha* contained alkaloids (129.01 mg/100 g) and flavonoid (6.75 mg/100 g). The liver damage induced by PCM, in Group 3 rats, showed a significant increase in the level of Total bilirubin, ALT and AST compared to Group 1; Total protein decreased significantly, reflecting liver injury caused by PCM, while rats in group 4 and 5 (300 and 500 mg/kg body weight) showed significant increase in the level of Total protein to the near normal value as compared to the orthodox drug (Group 2) rats, indicating the protection of hepatic cells against PCM damage, while the histopathology changes in the liver tissues supported the liver protection effect. *E. chlorantha* stem-bark extract possessed liver protective activity and it is able to reduce micro vesicular fatty changes caused by PCM damage.

**Keywords:** *Enantia chlorantha*, hepatoprotective, phytochemical, paracetamol, histology

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