eISSN: 2321–323X
pISSN: 2395-0781

Innovations in Pharmaceuticals and Pharmacotherapy

www.innpharmacotherapy.com

Research article

Hepatoprotective activity of ethanolic extract of *Euphorbia royleana linn* in carbon tetrachloride treated guinea pig

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Abstract

Background: The present study has been designed to explore and provide experimental evidences for the hepatoprotective activity of the stem of *Euphorbia royleana Linn*. **Material and Methods:** The herbs of *Euphorbia royleana Linn (*stem*)* were powdered, extracted by using soxhlet apparatus. Powered stem were defatted using petroleum ether (60%-80%), chloroform (99%) and hydro-alcoholic (70% alcohol and 30% water) solvent for 72 hours each time. Animals in one group received standard drug Liv-52 (100 mg/kg, p.o.). Other two groups were treated with low and high dose of ethanolic extract & chloroform extract (200 and 400 mg/kg., p.o. respectively) for 10 days once daily. On the 11 day, carbon tetrachloride (2 ml/kg in 50% v/v olive oil, s.c.) was given to all groups for induction of hepatotoxicity. After that various biochemical parameters were measured like as; SGOT, SGPT, ALP, serum total protein, total bilirubin and Direct bilirubin. **Result:** The standard drug Liv-52 for 10 days before CCl4 induction is administered to the animals and all the parameters were accessed after 11 days. Serum total protein level also elevates toward normal after treatment with standard drug. Ethanolic extract (EER) at dose of 400mg/Kg orally for 10 days shows most significant reduction in elevated level of SGOT, SGPT, ALP, total bilirubin and direct bilirubin level and EER also maintain the decreased levels of protein in the body as compared to the positive control group and standard treated group. Significant differences were observed change of body by ethanolic and methanol extract treated hepatotoxicity Guinea pig, when compared with the positive and normal animals. Concurrent histopathological studies of the liver these animals showed comparable regeneration by extract which were earlier encored by CCl_4. **Conclusion:** The present study showed that the ethanolic extract of *Euphorbia royleana Linn* has able to maintain the abnormal function of the liver when hepatotoxicity.. So it is may be concluded that *Euphorbia royleana* Linn is one of the herbal remedies which can be used as a liver ailment.

Keywords: Euphorbia royleana, Carban tetrachloride, Marker enzyme, Ethanolic extract.

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