ABSTRACT

Aim

Present study was aimed to the development and evaluation of newer herbal hepatoprotective formulation(s). The study includes preliminary investigations of plant extracts and screening for hepatoprotective activity, further formulations were prepared using fractionated extracts and evaluated for hepatoprotective activity.

Method

Three plants were selected; Butea monosperma, Bauhinia variegata and Ocimum gratissimum for hepatoprotective activity. After authentication, plant parts were subjected to preliminary phytochemical investigations followed by pharmacological screening of selected extracts to assess their effectiveness for the control of hepatotoxicity. Paracetamol (2 gm/kg, p.o) was administered to induced liver toxicity. Silymarin as standard was used for hepatoprotective activity. Various biochemical parameters i.e. SGPT, SGOT, ALP and total bilirubin etc. were analyzed and histopathological observations were conducted. Fractionated extracts showing significant hepatoprotective activity were selected for the formulation of polyherbal tablets. Two polyherbal tablet formulations were formulated and subjected for physicochemical evaluation to assess physical stability followed by pharmacological screening. Polyherbal tablet formulation PTF-2 was standardized by HPTLC method. The prepared tablets were finally subjected to stability testing to assess its shelf-life.

Results and Discussion

Results obtained from the hepatoprotective screening indicated that acetone fraction of Butea monosperma, ethyl acetate and n-butanol fractions of Bauhinia variegata and ethyl acetate and dichloromethane fractions of Ocimum gratissimum significantly brought down the elevated levels of SGPT, SGOT, ALP, and bilirubin. Hepatoprotective activity was highest in ethyl acetate fraction of Ocimum gratissimum and the lowest in n-butanol fraction of Bauhinia variegata.

Both polyherbal tablet formulations (PTF-1 and PTF-2) showed significant hepatoprotective activity and were significantly comparable with that of silymarin. However the maximum hepatoprotective activity was found with polyherbal tablet formulation PTF-2.
Conclusion

From the results of biochemical analysis and histopathological studies, it can be concluded that acetone fraction of *Butea monosperma*, ethyl acetate and n-butanol fractions of *Bauhinia variegata*, and dichloromethane and ethyl acetate fractions of *Ocimum gratissimum* shown prominent hepatoprotective activity.

From the study it can be concluded that polyherbal formulation PTF-2 can be effectively formulated into a suitable dosage form with added benefit of no side effects for control and cure of chronic ailments like liver disorders.