ABSTRACT

Cholestasis is characterized by the disruption in bile flow which results in elevation of bile acids level in liver and blood. Cholestasis can either be genetic or acquired. The former is caused by mutations in the genes involved in the synthesis and excretion of bile acids, while the latter is because of the side effects of systemically administered drugs, and physical blockage by stones or carcinoma. This study is aimed to evaluate the therapeutic potential of *Berberis lycium* stem extract and to compare its effect with an approved synthetic drug, Ursodeoxycholic acid (UDCA). The mouse models of cholestasis were generated by administration of α-naphthylisothiocyanate (ANIT) and the animals were treated with extract of *B. lycium* via oral gavage. Four groups of 8 Swiss albino mice in each were made out of 32 mice. The groups included the Control group (GI) not treated with anything, ANIT (75 mg/kg body weight) treated group (GII), *Berberis lycium* stem extract (150 mg/kg body weight) treated group (GIII) and UDCA (15 mg/kg body weight) treated group (GIV). After 21 days of treatment, the blood of the mice was collected for estimation of ALT, AST and ALP. The liver weights were determined and then the liver sections were collected for histopathological analysis. Furthermore, expression of genes involved in bile acid synthesis and excretion was determined. The results showed that *Berberis lycium* stem extract (150 mg/kg body weight) exhibits anticholestatic properties and caused significant reduction in levels of ALT, AST and ALP. Histopathological analysis showed a significant recovery in liver of mice. The results with *Berberis lycium* stem extract as pronounced as the treatment with UDCA and hence can be marked safe to use in place of UDCA.