

عنوان مقاله:

Evaluating the effects of different fractions obtained from *Gundelia tournefortii* extract against carbon tetrachloride-induced liver injury in rats

محل انتشار:

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خلاصه مقاله:

Xenobiotics-induced liver injury is a major challenge for clinicians and pharmaceutical industry. Hence, finding new therapeutic molecules against this complication has clinical value. The current investigation aimed to evaluate the potential protective effects of different fractions obtained from *Gundelia tournefortii* (GT) hydroalcoholic extract in a rat model of acute hepatic injury. Male Sprague-Dawley rats (200-250 g) were treated with carbon tetrachloride (CCl₄) (1.5 ml/kg, i.p), then ethanol, water, chloroform, ethyl acetate, and n-Butanol fractions of GT extract were administered. Biochemical and histopathological markers of hepatic injury were assessed and glutathione (GSH) and lipid peroxidation were monitored in liver samples. CCl₄ administration caused hepatotoxicity as revealed by an increase in serum alanine aminotransferase (ALT), aspartate aminotransferase (AST), and lactate dehydrogenase (LDH) activity, as well as pathological changes of the liver. Furthermore, a significant reduction in hepatic glutathione content and an elevation in lipid peroxidation were observed in CCl₄-treated rats. It was found that the n-butanol (200 mg/kg) and the ethyl acetate (300 mg/kg) fractions of GT extract protected liver against CCl₄-induced damage as judged by lower AST, ALT, LDH and lipid peroxidation, prevention of tissue glutathione depletion, and alleviation of histopathological damages of liver in extract-treated animals. As n-butanol and the ethyl acetate fractions of GT effectively alleviated the liver injury induced by CCl₄ and provide antioxidant properties, we might be able to propose that the hepatoprotective chemicals of *Gundelia* extract are present in these fractions.

کلمات کلیدی:

Gundelia tournefortii, Hepatoprotective, Hepatotoxicity, Liver injury, medicinal plants

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