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RESEARCH PAPER

HEPATOPROTECTIVE ACTIVITY OF THE METHANOLIC EXTRACT OF *FAGONIA INDICA* BURM. IN D-GALACTOSAMINE INDUCED HEPATOTOXICITY IN ALBINO RATS

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The aim of the study was to investigate the hepatoprotective activity of the methanolic extract of *Fagonia indica* Burm. on D-galactosamine (D-GalN)-induced hepatotoxicity in albino rats. Animals in Group 1 served as vehicle control, Group 2 served as the hepatotoxin (D-GalN, 400 mg/kg, *i.p.*) treated group, Group 3 served as the Standard (Silymarin 50 mg/kg, *p.o.*) treated group. Groups 4 and 5 served as methanolic extract of *Fagonia indica* (MEFI) in different doses (200 mg/kg and 400 mg/kg *b.w.*, *p.o.*). The degree of protection was determined by measuring levels of biochemical markers. The histopathological studies also showed the hepatic protection of the test extracts. The levels of the biochemical parameters such as SGPT, SGOT, ALP, total bilirubin, direct bilirubin and cholesterol were significantly increased in D-GalN treated rats when compared with the normal group ($P<0.05$), but the MEFI (400 mg/kg, *b.w.*) treated rats showed a maximum reduction of SGOT (85.00±1.23), SGPT (145.83±1.57), ALP (126.16±1.49), total bilirubin (1.73±0.12), direct bilirubin (0.75±0.009) and cholesterol (181.33±1.89) in a significant manner. Histopathological studies also revealed the hepatoprotection property of MEFI in a dose-dependent manner. These results suggested that that MEFI in different doses showed significant hepatoprotective activity against D-GalN-induced hepatotoxicity and this might be due to the presence of flavonoids and tannins. Further research is sought to explore the exact mechanism of action and phytoconstituents responsible for the pharmacological response.

Key words: *Fagonia indica*, Hepatoprotective, D-galactosamine (D-GalN), Silymarin, Histopathology.

INTRODUCTION

Herbal drugs have been used as remedies for a wide array of diseases across the world since ancient times. In recent years, increasing interest has been focused on phytomedicines as safer and more agreeable to the human body. Medicinal plants come into the preparation of various drugs singly or in combination or are even used as the principal source of raw material for other medicines [1-5]. The liver is the most important organ in terms of biochemical activity in the human body. The liver has a great capacity to detoxify and synthesize useful substances, and therefore, damage to the liver inflicted by hepatotoxic agents has grave consequences [6].

Liver diseases have become a worldwide problem and are associated with significant morbidity and mortality. The principal causative factors for liver disease in developed countries