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Hepatoprotective effect of a polyherbal formulation against carbon tetrachloride-induced hepatotoxicity in rats

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Liver disease remains one of the serious health problems. Millions of people suffer and die from liver diseases every year. The incidence of different kinds of liver disease like hepatitis, liver cirrhosis, liver cancer and other related diseases are very common in Bangladesh. Most common liver diseases in Bangladesh are different types of viral hepatitis. So this study was carried out to investigate the hepatoprotective effect of Rohitakarista, a polyherbal formulation commercially available in Bangladesh against carbon tetrachloride induced hepatotoxicity in rats. A total of 24 numbers of male albino rats (Wistar strain) with weight range 150-200 gm were used for the study. The animals were divided into 4 groups namely group I, II, III and IV. Each group contained 6 numbers of rats. Group I served as normal control and received neither formulation nor carbon tetrachloride received only normal diet and water. Group II received a suspension of CCl_4 in liquid paraffin in a ratio of 2:1 (v/v) in a uniform dose of 1 ml/kg body weight intraperitoneally for consecutive 14 days. Group III and IV received CCl_4 1 ml/kg body weight intraperitoneally plus Silymarin, in dose 50 mg/kg orally and Rohitakarista 1 ml/kg body weight of rat per orally respectively for the same 14 consecutive days. At the end of experiment, blood was obtained from each rat for the determination of biochemical parameters like serum bilirubin, alanine transaminase (ALT), aspartate transaminase (AST) and alkaline phosphatase (ALP). The histological studies of rat liver were also carried out. The results showed that polyherbal formulation have a significant hepatoprotective effect by assessed different biochemical parameters and histopathological study of liver when compared with standard silymarin. Therefore this study suggests that polyherbal formulation Rohitakarista has a good hepatoprotective activity. Further standardization processes may be performed in order to make it more beneficial in human studies.

Biography

Md. Nazmul Huda from Bangladesh has completed Bachelor of Ayurveda, Medicine and Surgery from the University of Dhaka, Bangladesh and awarded Ph.D. degree in Biological Science, specialty in Ayurvedic pharmacy. He has more than eight years experience as an Ayurvedic Clinician and Researcher in the field of alternative medicine in Bangladesh. He has attended four international seminars and presented papers and published two papers. Presently, he is doing private practice in Bangladesh and also involved in scientific research for the development of Alternative Medicine in Bangladesh.

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