






In vivo hepatoprotective effect of *Morinda elliptica* stem extract against liver fibrosis induced by thioacetamide

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Abstract

Morinda elliptica L. (Rubiaceae) is a phytomedicinal herb, used to treat gastrointestinal complications in Peninsular Malaysia. The study evaluates the in vivo hepatoprotective activity of ethanolic extract of *M. elliptica* stem in thioacetamide (TAA) induced liver fibrosis in male *Sprague Dawley* rats. Thirty adult rats were divided into five groups of six rats each. Rats of the normal control group received intraperitoneal injections (i. p.) of vehicle 10% Tween-20, 5 ml/kg, and hepatotoxic group 200 mg/kg TAA three times per week respectively. Three supplementary groups were treated with TAA plus daily oral silymarin (50 mg/kg) or *M. elliptica* (250 or 500 mg/kg). After 8 weeks of treatment, all rats were sacrificed. Liver fibrosis was assessed by gross macroscopic and microscopic tissue analysis, histopathological, and biochemical analysis. The livers of the TAA treated group showed uniform coarse granules, hepatocytic necrosis with lymphocytes infiltration. Contrary, the livers of *M. elliptica* treated groups (250 and 500 mg/kg) were much smoother and the cell damage was much lesser. The livers of *M. elliptica* treated groups rats showed elevated activity of SOD and CAT with a significant decrease in MDA level at $p < .0001$. The level of liver damage parameters, that is, ALP, ALT, and AST, bilirubin, total protein, and albumin were restored to the normal comparable to silymarin. *M. elliptica* stem extract significantly promoted normal rat liver architecture with significant perfections in biochemical parameters. The molecular contents of *M. elliptica* with hepatoprotective influence could be discovered, is the future prospective of this study.