

Hepatoprotective and immunosuppressive effect of *Synedrella nodiflora* L. on Carbon Tetrachloride (CCl₄)-Intoxicated Rats

Abstract

Synedrella nodiflora is a medicinal plant that is used by the natives of Sabah, Malaysia to treat rheumatism and several other ailments. This study aims to evaluate the ability of the crude aqueous extract of *S. nodiflora* leaves to protect against carbon tetrachloride (CCl₄)-mediated hepatic injury in rats. *S. nodiflora* aqueous extract was orally administered to adult Sprague Dawley rats once daily for 14 days (150 and 300 mg/kg body weight [b.w.]) before CCl₄ oral treatment (1.0 mL/kg b.w.) on the 13th and 14th days. Serum alanine aminotransferase (ALT), serum aspartate aminotransferase (AST), hepatic antioxidant enzymes, and malondialdehyde (MDA) levels were estimated. Immunohistochemistry was performed for oxidative stress markers (4-hydroxynonenal [HNE], 8-hydroxy-deoxyguanosine [8-OHdG]) and proinflammatory markers (tumor necrosis factor- α , interleukin-6, prostaglandin E₂). Biochemical, immunohistochemical, histological, and ultrastructural findings were in agreement to support the hepatoprotective effect of *S. nodiflora* against CCl₄-mediated oxidative hepatic damage. Hepatoprotective effects of *S. nodiflora* might be attributable to the presence of phenolic antioxidants and their free radical scavenging property.