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Ameliorative effect of ethanolic extract of *Annona muricata* against Sodium Arsenite-induced hepatotoxicity in Wistar rats

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Ingestion of arsenic in drinking water causes cancer at multiple tissues and there is no cure. Cancer has become a great monster to human race, as it places a significant emotional and economic burden on families and governments all over the world. Research is therefore directed at chemoprevention using medicinal herbs for the management of arsenicosis. In this study, we evaluated the *in vitro* antioxidant and protection offered by *Annona muricata* L. (AM) against sodium arsenite induced hepatotoxicity in rats. Antioxidant and radical scavenging activities of AM were compared to vitamin C and butylated hydroxytoluene (BHT). Proximate and phytochemical analyses were also carried out. Hepatoprotective study was investigated with six groups of rats that received distilled water (Control), 5.0 mg/kg bwt of NaAsO₂, 250 mg/kg bwt AM, 500 mg/kg bwt AM, NaAsO₂ plus 250 mg/kg AM, NaAsO₂ and 500 mg/kg AM. The NaAsO₂ was given once on days 7, 14 and 21, while AM was administered orally daily for 21 days. Serum transaminases and alkaline phosphatase activities were determined and liver histopathology carried out. AM contained 2.00% ash, 1.94% crude fat, 25.65% crude fibre, 2.88% protein and 58.62% carbohydrate. Phytochemical analysis indicated the presence of alkaloids, flavonoids and cardiac glycosides. The reducing power and metal chelating ability was in the order Vit C > BHT > AM, while for DPPH scavenging ability AM > Vit C > BHT. The NaAsO₂ significantly (p < 0.05) increased the liver function enzymes relative to control. However, AM treatment markedly reduced the marker enzymes and restores the severe vaculation of hepatocytes in the NaAsO₂ group to near normal. Our findings suggest that AM may constitute a remedy against arsenic induced hepatic injuries.

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