

Red cabbage (*Brassica oleracea* L.) mediates redox-sensitive amelioration of dyslipidemia and hepatic injury induced by exogenous cholesterol administration

Mohammed S. Al-Dosari
King Saud University, Saudi Arabia

The widely used culinary vegetable red cabbage (*Brassica oleracea* L. Var. *capitata* f. *rubra*) of *Brassicaceae* family contains biologically potent anthocyanins and a myriad of antioxidants. Previous studies have shown that pharmacological effects of red cabbage *in vivo* are redox-sensitive. The present study explored whether red cabbage modulates various histopathological and biochemical parameters in rats administered with a cholesterol-rich diet (CRD). To this end, prolonged administration of a lyophilized-aqueous form of red cabbage (250 and 500 mg/kg body weight) significantly blunted the imbalances in lipids, liver enzymes and renal osmolytes induced by the cholesterol-rich diet. The effects of red cabbage were compared to simvastatin (30 mg/kg body weight) treated rats. Estimation of malondialdehyde and non-protein sulfhydryls revealed robust antioxidant properties of red cabbage. Histopathological analysis of livers from rats administered with red cabbage showed marked inhibition in inflammatory and necrotic changes triggered by CRD. Similarly, *in vitro* studies using a 2',7'-dichlorofluorescein-based assay showed that red cabbage conferred cytoprotective effects in HepG2 cell line. In conclusion, the present study discloses the potential therapeutic effects of red cabbage in dyslipidemia and hepatic injury, which are at least partly mediated by its antioxidant properties.

Biography

Mohammed S. Al-Dosari has completed his Ph.D. at the age of 30 years from University of Pittsburgh, PA, USA and then joined College of Pharmacy at King Saud University, Riyadh, SA in 2005. He is right now an associate Professor in Department of Pharmacognosy in the same college. He has published more than 35 papers in fields of gene regulation, pharmacogenetics, medical genetics, and drug discovery in reputed journals and has been serving as adjunct scientist and part-time consultant in different institutes.

msdosari@yahoo.com