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Study on the Effect Cabbage (Brassica oleracea) and Ginger (Zingiber officinale) Extracts on Rat Liver Injuries Induced by Carbon tetrachloride (CCl4)

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Abstract : Cabbage (Brassica oleracea) and Ginger (Zingiber officinale) constitute apportion of regular human diet. The effect of Cabbage(CE) and Ginger extracts(GE) separately on liver nitric oxide (NO), malondialdehyde (MDA), as well as serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), total bilirubin, total cholesterol(TC), triglyceride(T.G), high density lipoprotein(HDL cholesterol), low density lipoprotein (LDL cholesterol), thyroid-stimulating hormone (TSH), Triiodothyronine (T3), Thyroxine (T4) in rats treated and untreated with carbon tetrachloride (CCl4) was studied. The levels of NO, MDA, as well as serum AST, ALT, total bilirubin, TC, T.G, LDLand TSH showed an elevation and decline in HDL, T3, and T4 in rats treated with CCl4 as compared to control. Treatment of rats with GE pre, during, and post CCl4 administration improved NO, MDA, as well as serum AST, ALT, total bilirubin, TC, T.G, HDL, LDL, TSH, T3, T4 as compared to CCl4, indicates that GE improve thyroid function and reduced oxidative stress as well as injuries induced by CCl4. Treatment of rats with CE pre, during, and post CCl4 administration did not improved in the thyroid hormones and lipid profile levels as compared to CCl4. These findings suggest that ginger treatment exerts a protective effect on metabolic disorders by decreasing oxidative stress.

Keywords : liver injuries, carbon tetrachloride (CCl4), cabbage (Brassica oleracea), ginger (Zingiber officinale), thyroid function
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