ROLE OF AN AMINOTHIAZOLE DERIVATIVE ON ETHANOL- AND THERMALLY OXIDIZED SUNFLOWER OIL-INDUCED TOXICITY

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It is a known fact that ethanol increases lipid levels in humans and experimental animals. In this study, we have investigated the effect of dendrodoine analogue (DA), DA-[4-amino-5-benzoyl-2-(4-methoxyphenylamino)-thiazole], on alcohol- and thermally oxidized sunflower oil-induced hyperlipidemia. Ethanol was given to animals at a dose of 5 ml of 20% solution and thermally oxidized sunflower oil at a level of 15% (15 g oil/100 g feed). Our results showed increased activity of aspartate transaminase (AST), alkaline phosphatase (ALP) and \(^\gamma\)-glutamyl transferase (GGT) and increased levels of cholesterol, triglycerides and phospholipids in the plasma of groups given alcohol, thermally oxidized oil and alcohol + thermally oxidized oil when compared with normal control group. The levels of tissue (liver and kidney) cholesterol and triglycerides were increased significantly in groups treated with alcohol, thermally oxidized oil and alcohol + thermally oxidized oil when compared with normal control rats. The levels were decreased when DA was given along with alcohol and thermally oxidized oil. The level of phospholipids decreased significantly in the liver and kidney of rats administered alcohol, thermally oxidized oil and alcohol + thermally oxidized oil when compared with normal control rats. The level increased when DA was administered along with alcohol and thermally oxidized oil. The activity of phospholipase A and C increased significantly in the liver of groups given alcohol, thermally oxidized oil and alcohol + thermally oxidized oil when compared with normal control rats, whereas the activity was decreased upon DA treatment. The obtained results indicate that DA can decrease the lipid levels in alcohol- and thermally oxidized oil-treated rats.

Key words: ethanol, hyperlipidemia, phospholipases, dendrodoine analogue, aminothiazole derivative, thermally oxidized sunflower oil, n-6 PUFA

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