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Effect of sesame oil on liver enzymes and lipid profile in rats exposed to oxidative stress induced by monosodium glutamate

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The present research was conducted on 24 male mature Wistar rats to study effect of sesame oil on liver enzymes, lipid profile and the protective role against the oxidative stress caused by feeding monosodium glutamate which may affect the liver. The rats were allocated in four equal groups. The 1st group was used as negative control without any treatment. The 2nd group used as positive control feed on monosodium glutamate at dose rate 1.6 mg/g bodyweight. The 3rd group received monosodium glutamate at dose rate 1.6 mg/g body weight and treated with sesame oil at doses 4 ml/kg. body weight. The 4th group received monosodium glutamate at dose rate 1.6 mg/g bodyweight and treated with sesame oil at dose rate 8 ml/kg bodyweight. Results indicated that oral intake of sesame oil at doses 4 and 8 ml/kg body weight for 14 days significantly improved total cholesterol (TC), triglycerides (TG), lipoprotein fractions, decreased the elevated serum levels of liver enzymes aminotransferase (AST) and alanine aminotransferase (ALT) when compared to the control positive group. Oxidative stress markers glutathione peroxidase (GPx), superoxide dismutase (SOD) and catalase (CAT) were significantly improved as compared to the control positive group. We can conclude that the consumption of sesame oil may have protective effects against the oxidative stress caused by consumption of monosodium glutamate (MSG) and its recommended to intake sesame oil daily for people who consume food with monosodium glutamate (MSG).

Biography

Amani Aliwi Alrasheedi has completed her PhD at Girl's College for Home Economics and Art Education-King AbdulAziz University, Jeddah-Saudi Arabia and Post-doctoral studies from Leeds University School of Food Science and Nutrition. She is the Vice Dean of high graduate studies at King Abdulaziz University. She has published more than 20 papers in reputed journals and a supervisor for four master students.

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