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Management of steatohepatitis by functional foods in rat model

The present work was established to prepare two functional foods and two parallel formulas containing only the bioactive constituents and to evaluate them in fatty liver rat model. Dietary fibers, total phenolics, fatty acids and phytosterols were assessed in the functional foods. In the biological experiment different nutritional and biochemical parameters and liver histopathology were assessed. The groups included control fed balanced diet for 9 weeks, control fed high fructose diet for 9 weeks (control fatty liver), group of rats fed high fructose diet for 5 weeks then shifted to balanced diet for 4 weeks and four test groups of rats fed on high fructose diet for 5 weeks then shifted to the different four formulas diets for 4 weeks. Percentage liver/body weight was calculated. The determined biochemical parameters were plasma triglycerides, Total Cholesterol (T. Ch), High Density Lipoprotein Cholesterol (HDL-Ch), low density lipoprotein cholesterol, malondialdehyde, tumor necrosis factor alpha and leptin. Liver and kidney function tests were estimated in addition to plasma insulin and glucose. Insulin resistance and T. Ch/HDL-Ch were calculated. Results showed that the two tested functional foods and their parallel formulas afford hepato-protection against steatohepatitis with variable degrees. The bioactivity is mediated through reduction of liver fat, improving plasma lipid profile, reducing inflammatory and oxidative stress biomarkers, improving liver function, reducing insulin resistance and leptin and improving liver histopathology. The bioactivity of functional foods could be attributed to the presence of phenolic compounds, dietary fibers, phytosterols and poly and mono-unsaturated fatty acids in the tested functional foods.

Biography

Sahar Y Al-Okbi has obtained her PhD in Pharmaceutical Sciences from Cairo University, Egypt. She is the Head of Food Analysis, Therapeutic Diets and Dietary Regimen Unit, National Research Centre. She has published 108 papers in reputed journals and has been serving as Reviewer in different international journals.

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