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Myrica rubra Fruit drink Sub-Chronic toxicity and hepatoprotective effect in Rats

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Abstract

Background: This study dealt with the effect of the subchronic toxicity of *Myrica rubra* fruit beverage drink (MRD) in rats and its hepatoprotective effect against carbon tetrachloride (CCl_4)-induced hepatotoxicity.

Methodology: Different groups of normal male and female Wistar rats were treated with 50% MRD as drinking vehicle (13 weeks), as substitution of the normal drinking water. Coulter Counter was used for red blood corpuscles (RBCs) and white blood corpuscles (WBCs) count. The Reflotron instrument and Reflotron haemoglobin kit used for determination of haemoglobin content, while the Reflotron strips for determination of blood glucose, total triglycerides and cholesterol contents, blood enzymatic levels, and bilirubin. Atomic absorption spectroscopy was used for determination of blood Na+, Mg++ and Ca++ concentrations.

Principal findings: Treatment induced significant increases in the red blood corpuscles (RBCs) count, haematocrit and haemoglobin content. It also significantly decreased plasma levels of total cholesterol and the low-density lipoproteins (LDL) without affecting the levels of high-density lipoproteins (HDL), glucose, triglycerides and bilirubin, together with the significant decrease in hepatic malonaldehyde production. The treatment resulted in significant reductions in the enzymes alanine transiminase (ALT), aspartate aminotransferase (AST) and Alkaline phosphatase (ALP) and a significant diuretic effect.

Conclusion: The results of the study point to the potential of *Myrica rubra* fruit drink to act as a new functional food.