J Forensic Toxicol Pharmacol 2018, Volume: 7
DOI: 10.4172/2325-9841-C5-021

Effect of inhalation exposure to petrol (gasoline) fumes on serum lipid profile in male albino Wistar rats

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The effect of four weeks of inhalation to petrol vapors on lipid profile was studied in male albino Wistar rats. Fifteen (15) rats were distributed into three groups of five rats each. Groups I served as control administered only normal rat chow and tap water twice daily while groups II and III were exposed daily for four (4) hours and eight (8) hours respectively to petrol (gasoline) fumes through nose inhalation throughout the course of the experiment. In the end, the animals were sacrificed under anesthesia and blood samples obtained for serum lipid profile determination. It was observed that the levels of total cholesterol (TC), high density lipoprotein (HDL), low density lipoprotein (LDL), very low density lipoprotein (VLDL) and triacylglyceride (TG) decreased significantly ($p>0.05$) while the levels of serum total cholesterol significantly increased ($p<0.05$) from group I to group III following the inhalation exposure. However, there was no significant difference ($p>0.05$) between the two groups exposed to petrol fumes for four (4) hours and eight (8) hours (groups II and III) for TC, HDL, LDL, VLDL, and TG but these parameters were significantly different ($p<0.05$) for the control. The results suggest that repeated exposure to petrol (gasoline) fumes could lead to atherosclerosis, coronary heart disease, and obstructive jaundice.

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