

Study of changes using biochemical markers in albino mice after acute exposure to acetamiprid

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ABSTRACT:

The present study aimed to investigate the acetamiprid effects on biochemical aspects in albino mice. Thirty albino mice at the age of 6-8 weeks and average weight 25 ± 5 g were divided into three groups each having ten (10) healthy mice. The first group was orally administrated with distilled water while the second and third groups were orally administrated with 50 mg/mL and 100 mg/mL respectively of acetamiprid (0.1 mL) daily for one week. LD₅₀ of acetamiprid was measured and found to be 200 mg/kg. The parameters of evaluations included liver function using Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT) and Alkaline Phosphatase (ALP). Lipid profile was analysed using Total Cholesterol (TC), Triglycerides (TG), High Density Lipoprotein (HDL), Low Density Lipoprotein (LDL) and Very Low Density Lipoprotein (VLDL). Antioxidant factors such as Superoxide Dismutase (SOD), Malondialdehyde (MDA), Catalase (CAT) and Glutathione Peroxidase (GPx), Calcium ion (Ca^{2+}) and Aacetylcholine Esterase (AChE) were also measured. The study suggested that acetamiprid 100 mg/mL significantly affected the biochemical component and it was considered to be a toxic dose of acetamiprid in albino mice.

Keywords:

Acetamiprid, Albino mice, Biochemical markers, Acute toxicity.