EFFECT OF EXTRACT OF *ALLIUM SATIVUM* (GARLIC) ON LIVER AND KIDNEY TISSUES OF WISTAR RATS

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ABSTRACT

The study was aimed at investigating the effect of chronic concentration of *Allium sativum* on liver and kidney tissues of Wistar rats. A total of thirty-two rats weighing between 150 – 200 g were used in the study. The rats were divided into four groups namely; normal control groups (CG1 & CG2) and experimental groups (TG1 & TG2) consisting of eight rats each. The control groups received distilled water only while the experimental groups were administered 300 mg/kg body weight of aqueous extract *Allium sativum* for 5 and 10 weeks respectively. Exactly 1.0g of liver or kidney tissues harvested from each rat were homogenized in phosphate buffer for lipid peroxide assay and serum separated from blood was used for biochemical assay. The LD50 of the acute toxicity study of the plant aqueous extract was 5000 mg/kg b.wt. Oral administration of aqueous extract of *Allium sativum* on AST level for 5 weeks was not statistically significant (p<0.05), but the activity of ALT was significantly (p<0.05) increased. The activities of AST and ALT in both TG1 and TG2 were significantly (p<0.05) increased. Creatinine and urea levels showed no significant (p>0.05) change in the TG1 group but in TG2 the level of creatinine was significantly (p<0.05) increased while, urea level was significantly (p<0.05) decreased. The level of TBARS in the liver and kidney was significantly (p<0.05) increased in TG2. Liver organ-body weight was significantly (p<0.05) increased in both TG1 and TG2, while the kidney organ-body weight was significantly (p<0.05) increased in TG2 only. The histological studies revealed normal morphology in all the control groups and no significant pathological findings in the treated groups. It is concluded that chronic administration of the aqueous extract of *Allium sativum* may induce lipid peroxidation and elevation of liver and kidney function indices without apparent cellular damage.

**Keywords**: *Allium sativum*, liver, kidney, lipid peroxidation

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