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Alterations in liver function of male rats by oral administration of aqueous extract of *Nerium oleander* leaves

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Abstract

Nerium oleander is a well-known herb in algeria where it used in treatment of several ailments and diseases. The study aims to investigate the toxicity of aqueous extract of *N. oleander* leaves (L) following to repeated doses exposure. A total of 28 male wistar rats were divided into the control C (saline serum NaCl 0.9%), low dose of aqueous extract of *N. oleander* leaves L1 (20 mg/ kg), medium dose of aqueous extract of *N. oleander* leaves L2 (40 mg/kg) and high dose of aqueous extract of *N. oleander* leaves L3 (60 mg/kg) groups. The extract was administered for 12 conssecutive days. At the end of the study, the animals were humanely sacrificed and assessed for the effect extract of Nerium oleander leaves on behavioral and liver functions (biochemical and histopathological). The findings revealed that the extracts of L1 and L2 were no changes in their physical appearance, behavioural patterns, biochemical and histopathological examination of liver. However, at the higher doses (L3) diarrhea, weakness, anorexia, frequent urination, nasal hemorrhage, were observed. The L3 has reduced the concentration of glucose. Wherease triglycerides, total cholesterol, alanine aminotransferease, albumin, conjugated bilirubin levels of L3 were not statistically significant compared to the control. Simultaneously, total bilirubin, unconjugated bilirubin concentration were increased significantly in L3, The findings were supported by adverse histological changes were observed in liver. Thus, it can be concluded that exposure to *N. oleander* equeous extract leaf adversely affects the liver functions.

Keywords: *Nerium oleander*, Leaf extract, Biochemical marker, Liver, Histopathology.