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Mercuric Chloride-Induced Hepatotoxicity In Female Wistar Rats

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Abstract

Mercury is one of the most hazardous environmental and industrial pollutants found in various chemical forms such as elemental, organic and inorganic mercury. It is a toxic chemical, its exposure leads to damage in a variety of tissues and organs. Mercury exposure also leads to gastrointestinal disorders and hormonal imbalance. A specific concern about mercury exposure in people is the need for efficient treatment to cope with poisoning. The central nervous system, gastrointestinal system, kidney and liver are the main target sites of mercury toxicity. Plant products and their active components are the sources of natural antioxidants that can protect tissues and organs from oxidative stress and thus play a significant role in metal detoxification. The present study was to determine the impact of *Morinda longissima* ethanolic extract (150 and 300 mg/kg body weight) on mercuric chloride (HgCl₂) (1.5 mg/kg b.w.)-mediated hepatic oxidative toxicity in rats. Compared with antioxidant synthetic alpha-Tocopherol (100 mg/kg b.w.). The experiment was carried out in female rats which was divided into five groups as follows: negative control, positive control (HgCl₂), ML 150 mg/kg + HgCl₂, ML 300 mg/kg + HgCl₂ and Tocopherol 100 mg/kg + HgCl₂. Animals were treated for 10 days; the rats were administered by single dose of HgCl₂ (1.5 mg/kg b.w.) in physiological saline intraperitoneal. Twenty-four hours after the last treatment, all rats were sacrificed and liver tissues were isolated for histological parameters. The results showed that HgCl₂ caused a marked damage in tissues HgCl₂ changed histological integrity of liver. In contrast to this, *Morinda longissima* decreased histopathological alterations compared with standard and positive group.

Key Words: Oxidative stress, mercuric chloride, liver damage, histological parameters, *Morinda longissima*.

