Effect of Grape seed oil (Vitis vinifera) on serum gonadotropins and testosterone levels in adult rats exposed to lead acetate

Mokhtari M (Ph.D)*1, Jelveh S (M.Sc)2

1Associate Professor of Physiology, Department of Biology, Kazeroun Branch, Islamic Azad University, Kazeroun, Iran.
2M.Sc in Animal Science, Department of Biology, Kazeroun Branch, Islamic Azad University, Kazeroun, Iran.

Abstract

Background and Objective: Lead exposure induced toxic effects on reproductive system. This study was done to evaluate the effect of Grape seed oil (Vitis vinifera) on serum gonadotropins and testosterone level in toxicited adult male rats by lead acetate.

Methods: In this experimental study, 56 adult male Wistar rats were randomly allocated equally into 7 groups. Animals in control group did not receive any matter. Animals in the sham, experimental 1 and experimental 2 groups were received orally distilled water, 8ml/kg Grape seed oil (GSO) and 0.1 mmol/lit lead acetate for 21 days, respectively. Animals in the experimental group 3, 4 and 5 were received 0.1 mmol/lit lead acetate for 21 days and then 2 ml/kg/bw, 4 ml/kg/bw and 8ml/kg/bw GSO from day 22 up to day 42, respectively. Blood samples were taken from control, sham and experimental groups 1 and 2 at the end of day 21. At the end of day 42, blood samples were taken from experimental groups 3, 4 and 5. Serum level of LH, FSH and testosterone were measured by Radioimmunoassay.

Results: Serum level of LH, FSH and testosterone were significantly reduced in the experimental group 2 in compared to control group. Serum level of LH, FSH and testosterone were significantly increased in experimental group 4 and 5 in comparision with the experimental group 2.

Conclusion: Grape seed oil extract at doses of 4 and 8ml/kg/bw increased serum level of LH, FSH and testosterone in lead acetate exposed male rats.

Keywords: Grape seed, Lead acetate, LH, FSH, Testosterone, Rat

* Corresponding Author: Mokhtari M (Ph.D), E-mail: mokhtar_mokhtary@yahoo.com

Received 18 Aug 2013 Revised 6 Jul 2014 Accepted 10 Aug 2014