

Original Paper

Effect of Diazinon on pituitary-gonadal axis and histological alteration of seminiferous tubules in adult rat testis

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Abstract

Background and Objective: Diazinon is an organophosphate insecticide. , which inhibits the enzyme acetylcholinesterase. This study was done to evaluate the effect of Diazinon on pituitary-gonadal axis and histological alteration of seminiferous tubules in adult rat testis.

Methods: In this experimental study, 40 adult male Wistar rats were randomly allocated into five groups including control, sham and experimental 1, 2 and 3. Animals in experimental group 1, 2 and 3 were received 50, 100 and 150 mg/kg/bw of diazinon for 28 days, orally, respectively. Animals in control group did not receive any substance. Animals in sham group were received an equivalent amount of normal saline. The animals were euthanized after 28 days and a blood sample was collected via heart puncture and testes were removed for histological studies.

Results: Diazinon significantly reduced serum testosterone concentration, sertoli cell, leydig cell count, primary spermatocyte and spermatid ($P<0.05$). Diazinon had no significant effect on the body and testis weight in the experimental groups compared to controls.

Conclusion: Diazinon reduces the concentration of testosterone and cells in seminiferous tubule in adult rat.

Keywords: Diazinon, Testis tissue, Testosterone, Rat

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