

# **Prenatal and postnatal exposure to diazinon and its effect on spermatogram and pituitary gonadal hormones in male offspring of rats at puberty and adulthood**

## **Abstract**

The objective of this research is to study the possible reproductive adverse effects of diazinon on rat offspring exposed in utero and during lactation. Twenty-four Sprague-Dawley female rats (10-12 week old) were randomly assigned to four groups, each consisting of six rats. Group 1 served as the control and these rats were given normal saline orally. Rats in groups 2, 3, and 4 were administered diazinon, dissolved in saline at 10, 15, 30 mg/ kg-1 body weight, per oral, once daily, during mating, pregnancy and lactation. The male offsprings were examined at puberty and adulthood for body weight, testis weight, epididymis weight, sperm count, motility and morphology, pituitary-gonadal hormone levels. At 30 mg kg-1 dose, the male offsprings showed a decrease in testicular weight, sperm count, motility, with an increase in abnormal sperm percentage and a decline in pituitary-gonadal hormones, at puberty. Upon attaining adulthood, there was a decrease in testicular weight, sperm count and motility with an increase in abnormal sperm percentage and a decrease in pituitary hormone level. There was evidence of some adverse reproductive effects on the male offspring at the 15 mg/ kg-1 dose. Most of the adverse effects were irreversible and were evident at both puberty and adulthood in the offsprings, although a few parameters reverted to the normal growth pattern. Diazinon is a reproductive toxicant for male offsprings if exposed during prenatal and postnatal phases.