

## **Paper No. 6**

### **Title: Testicular Protective Effect of L- Carnitine on Monosodium Glutamate-Induced Testicular Structure Alterations in Male Mice**

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#### **ABSTRACT**

This study was carried out to investigate the ameliorative effect of L-carnitine on monosodium glutamate (MSG)-induced testicular toxicity in male mice. Sixty adult male mice were randomized into 6 groups (n = 10). In addition, to the control male mice group (Gp1) that orally administered distilled water, Gp2 mice received 150 mg/kg/day L-carnitine for 35 days. Monosodium glutamate (MSG) was orally administered to male mice at doses of 0.3 and 0.6 mg/g body weight individually (Gp3 & Gp4) and in combination with 150 mg/kg body weight of L-carnitine for 35 days (Gp5 & Gp6). The morphometric parameters, histopathological findings and immunohistochemical studies for PCNA, Ki-67 and Claudin-1 of the testis tissue demonstrated that L-carnitine attenuated and ameliorated the alterations in testicular tissues caused by MSG exposure. Conclusions: The findings of the present study indicated that treatment of male mice with L-carnitine banned MSG-induced testicular toxicity by improving testicular structure status.

#### **Keywords:**

Monosodium glutamate, toxicity, testis, male mice and L-carnitine