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Title: Protective Effect of L-Carnitine Against Reproductive Toxicity of Monosodium Glutamate in Male Albino Mice

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ABSTRACT

Monosodium glutamate (MSG) is commonly used as food enhancer which causes a wide range of toxic effects including reduced male fertility. This study was carried out to investigate the protective effect of L-carnitine against monosodium glutamate (MSG)- induced testicular toxicity in adult male mice. Sixty adult male albino mice (age 10 weeks) were used in the present study and divided into six groups. Group I used as control group (10 mice). Group II (10 mice) received 150 mg/kg/day L-carnitine. Group III& IV (10 mice each) was received 0.3 and 0.6 mg MSG/g body weight. Group V and VI (10 mice each) received 0.3 and 0.6 mg MSG /g body with 150 mg L-carnitine/kg body weight. All animals were treated orally by gastric intubation for 35 days. Reproductive performance, gonadosomatic index (GSI), sperm count, motility, and morphology as well as comet assay were studied. The study demonstrated that L-carnitine ameliorated MSG alterations in testicular weight, sperm count, sperm motility, and sperm morphology together with DNA degradation. This study indicated that the treatment of mice with L-carnitine enhances MSG reproductive toxicity by improving sperm quality and DNA status.

Keywords: Glutamate, Mice, Sperm, Reproductive Toxicity, L-carnitine.

