

# **The Effect of Carnosic Acid (effective material of Rosemary) on the Protection of reproduction parameters in the face of Sodium metabisulfite consumption Male Rats**

## **Abstract**

**Background and objective:** *Sulfate salts are used as preservatives for food and in drugs such as Acetaminophen as excipient. Most studies have shown that sulfites have toxic effects on the reproductive system. Therefore, the aim of this study was to evaluate the protective effects of Carnosic acid (effective material of Rosemary) in preventing damage caused by Metabisulfite in rat testicles.*

**Methods:** *In this study, 40 male rats were used, which the animals were divided into 5 groups. The first group was received only distilled water and the second group was received only metabisulfite. Other groups simultaneously with Metabisulfite, received 15, 30 and 50 mg / kg respectively, Carnosic acid (effective material of Rosemary). After 28 days, since anesthesia and sampling from rats, appropriate tests were performed.*

**Results:** *Metabisulfite administration significantly reduced ( $P < 0.05$ ) SOD, testosterone, sperm count, sperm motility, testicular weight, rat weight, and increased MDA level of testicular tissue, which in the treatment group with a dose of 60 mg / kg these values were significantly improved ( $P < 0.05$ ).*

**Conclusion:** *The results of this study showed that dose-dependent administration of Carnosic acid (effective material of Rosemary) could significantly prevent the damage caused by metabisulfite in the rat's testicular tissue.*

**Keywords:** *Carnosic Acid, Metabisulfite, Testicular Tissue, oxidative stress, Rat*