

Tomato (*Lycopersicon esculentum*) prevents lead-induced testicular toxicity

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Abstract

Background: Lead, an example of heavy metals, has, for decades, being known for its adverse effects on various body organs and systems such that their functions are compromised. **Aim:** In the present study, the ability of lead to adversely affect the male reproductive system was investigated and tomato (*Lycopersicon esculentum*: Source of antioxidants) paste (TP) was administered orally to prevent the adverse effects of Pb. **Materials and Methods:** Fifteen Sprague Dawley rats, randomised into three groups (n = 5), were used for this study. Animals in Group A served as the control and were drinking distilled water. Animals in Groups B and C were drinking 1% Pb (II) acetate (LA). Group C animals were, in addition to drinking LA, treated with 1.5 ml of TP/day. All treatments were for 8 weeks. **Statistical Analysis Used:** A Mann-Whitney *U*-test was used to analyse the results obtained. **Results:** The obtained results showed that Pb caused a significant reduction in the testicular weight, sperm count, life-death ratio, sperm motility, normal sperm morphology, and plasma and tissue superoxide dismutase and catalase activity, but a significant increase in plasma and tissue malondialdehyde concentration. But, Pb did not cause any significant change in the serum testosterone level. TP, however, significantly reduced these adverse effects of Pb. **Conclusion:** These findings lead to the conclusion that TP significantly lowered the adverse effects of Pb exposure on the kidney as well as Pb-induced oxidative stress.

Keywords: Heavy metals, lead, reactive oxygen species, testicular parameters, tomato