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JOURNAL ARTICLE

The effect of duration of exposure on the expression of lead toxicity on the male reproductive axis

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This study assesses the significance of duration of exposure on the expression of lead toxicity on the male reproductive system. Male Wistar rats, 52 days old, were treated with 0.0% or 0.6% lead acetate in their water for 7, 14, 30, or 60 days prior to sacrifice. In all cases, the lead-treated groups had blood lead and free erythrocyte protoporphyrin (FEP) levels significantly higher than control animals (P less than 0.0001). Serum testosterone levels and spermatogenesis were suppressed in all lead-treated groups compared to the corresponding controls (P less than 0.05 and P less than 0.001, respectively), except for the group treated for 7 days. The data presented verify that exposure to lead acetate is toxic to the reproductive axis in male rats, but that increased duration of exposure after 14 days does not further suppress serum testosterone levels or spermatogenesis.

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