Lead Toxicity in Male ICR Mice

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ABSTRACT Male ICR mice were treated intraperitoneally with 0, 2.5, 5, 25, 50 and 100 mg/kg bw of lead acetate to evaluate their toxicity at various dosages and exposure periods. The concentration of whole blood-lead was gradually increased on day 7 and then dropped on day 14 in the 100 mg/kg bw for 5 consecutive dosages. Increasing the dose or exposure time in the repeated-dose groups increased the blood-lead concentration as well. In addition, the body weight gain decreased with an increasing dose of lead acetate. Moreover, the relative weights of the spleen and kidney were significantly higher than those of the control group. The values of total erythrocyte, hemoglobin, and hematocrit in lead-treated rats were reduced. Basophilic stippling was found in the lead-toxic erythrocytes, and microcytic hypochromic anemia was subsequently revealed. Microscopically, proximal renal tubular degeneration, necrosis, and eosinophilic intranuclear inclusion bodies occurred in the affected kidney. Furthermore, hemosiderosis was also found in the lead-treated mice. Above results suggest that lead can induce hematological and renal toxicity in male ICR mice. [Li-Chunq TSENG, Jiunn-Wang LIAO, Shun-Cheng WANG. Lead toxicity in male ICR mice. J Chin Soc Vet Sci 27 (2): 104-112, 2001. Corresponding author TEL: 05-379 2951, FAX: 05-370 3510, E-mail: condict@ms43.hinet.net]

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