

عنوان مقاله:

The Histopathological and Oxidative Stress Profiles in Japanese Quails (*Coturnix japonica*) Induced by Dietary Lead

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نویسندگان:

R Abd AL-Zahra Ali - *Department of Pathology and Poultry Disease, Faculty of Veterinary Medicine, University of Basrah, Basrah, Iraq*

A. J Rasmi Huwait - *Department of Anatomy and Histology, Faculty of Veterinary Medicine, University of Basrah, Basrah, Iraq*

R Issa Abed - *Department of Clinical Laboratory Sciences, Faculty of Pharmacy, University of Basrah, Basrah, Iraq*

M Faisal Majeed - *Department of Anatomy and Histology, Faculty of Veterinary Medicine, University of Basrah, Basrah, Iraq*

خلاصه مقاله:

In their native habitat, avians are exposed to external toxicity factors, the most prominent of which are chemical lead compounds that threaten human and animal health. The goal of this investigation was to estimate the adverse effects of lead acetate ($Pb(CH_3COO)_2 \cdot (H_2O)_3$) on the health status of Japanese quail (*Coturnix japonica*). 18 adult male Japanese quails (*Coturnix coturnix japonica*) were employed in this investigation. After two weeks of acclimatization, the birds were randomly divided into three groups: the control group received no Pb^{+2} , the Low Dose Group received 50 mg/kg of Pb^{+2} as lead acetate $Pb(CH_3COO)_2 \cdot (H_2O)_3$ in the diet, and the High Dose Group received 100 mg/kg of Pb^{+2} as lead acetate $Pb(CH_3COO)_2 \cdot (H_2O)_3$ in the diet, for 30 days. Results showed that the Pb bioaccumulation was recorded at the highest values in the liver compared with the kidney, and as expected, the ranges of the lead accumulation were significantly higher in the animals who received 100 mg/kg Pb compared with animals who received 50 mg/kg Pb and the control group. In the high dose group, serum content showed significantly increased levels ($P \leq 0.05$) of aminotransferase enzymes (ALT and AST), glucose, creatinine, and uric acid levels compared to other groups, while antioxidant enzymes (CAT, GSH, and GSH-PX) levels in the liver and kidney were significantly reduced ($P \leq 0.05$). The results showed that the MDA appeared to be significantly increasing ($P \leq 0.05$) in the high dose group compared to the other groups. Compared to the low dose and control groups, the high dosage group produced substantial histological abnormalities in the liver and kidney.

کلمات کلیدی:

dietary Lead toxicity, *Coturnix japonica*, liver, Kidney

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