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The Effects of Cypermethrin on Bone and Bone Marrow in Short and Long Treatment in Wild Pigeons (Culumba livia gaddi)

Al-Azizz A. Suzan, Mustafa A. Faten, Isra'a M. Essa and S.K. Majeed
Deparment of Microbiology, Deparment of Biology, Collage of EducationDeparment of Pathology and Poultry Pathology,Collage of Veterinary Medicine, University of Basrah, Basra, Iraq

Abstarc :

Cypermethrin used to control many insect pests in domestic, industrial and agricultural situations. Under this study a total of (80) adult domestic pigeons were purchased from local market in Basrah city. Then to study the short term exposure of cypermethrin for two months with four groups; group one low dose 0.25 mg/day, group two intermediate dose 0.5 mg/day, group three high dose 0.75 mg/day and fourth control group. While, to study the long term exposure of cypermethrin for four months divided into four groups; group one low dose 0.25 mg/day, group two intermediate dose 0.75 mg/day, group three high dose 1 mg/day and fourth control group. At the end of the experiment all pigeons were killed, selected bone and bone marrow and fixed in 10% neutral buffered formalin for histopathological study. The short term exposure showed in low dose bone with an osteosis and prominent blood vessels, with metaphases and diphyses, metaphases going down into diphyses forming new bone. The bone marrow with a reduced number ofnormoblst or non active haemopoesis. In intermediate dose the bone with a chondroses and going down to diphyses with new bone formation. While, the bone marrow non active haemopoesis and the majority normoblst. In high dose the bone with osteosis and vacuolation but, the bone marrow looks like yellow with poor haemopoesis with prominent fat cells. In pigeon with long term exposure the pathological changes as chondroses in metaphysic with giving rise to osteosis in diphyses and normoblst, heterophiles and mature red blood cells nucleated but reduced activity in both bone and bone marrow of low dose respectively. While, in intermediate dose the bone with metaphyses extending into diphyses with proliferation of chondrocytes into metaphyses but the bone marrow with a congestion and mature red blood cells. In high dose the bone osteosis and prominent blood vessels and metaphyses with mark proliferation of chondroide tissue and presence of chondroide tissue into bone trabeculae indicating active newbone formation but bone marrow with a poor haemopoesis and yellow in character prominent adipose tissue. In conclusion it can said that cypermethrin effect not only in different organs but also on bone and bone marrow in birds when enter the cycle of this component by may be eaten fishes or any water species or seeds treated with cypermethrin.

Key Word :
Cypermethrin, bone marrow, haemopoesis, pesticides

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