

Histopathological Changes in Liver and Muscle of Tilapia Fish from QIRE Exposed to Concentrations of Heavy Metals

Authors : Justina I. R. Udotong, Ofonime U. M. John

Abstract : Toxicity of copper (Cu), lead (Pb) and iron (Fe) to *Tilapia guineensis* was carried out for 4 days with a view to determining their effects on the liver and muscle tissues. *Tilapia guineensis* samples of about 10 - 14cm length and 0.2 - 0.4kg weight each were obtained from University of Calabar fish ponds and acclimated for three (3) days before the experimental set up. Survivors after the 96-hr LC50 test period were selected from test solutions of the heavy metals for the histopathological studies. Histological preparations of liver and muscle tissues were randomly examined for histopathological lesions. Results of the histological examinations showed gross abnormalities in the liver tissues due to pathological and degenerative changes compared to liver and muscle tissues from control samples (*tilapia* fishes from aquaria without heavy metals). Extensive hepatocyte necrosis with chronic inflammatory changes was observed in the liver of fishes exposed to Cu solution. Similar but less damaging effects were observed in the liver of fishes exposed to Pb and Fe. The extent of lesion observed was therefore heavy metal-related. However, no pathologic changes occurred in the muscle tissues.

Keywords : degenerative changes, heavy metal, hepatocyte necrosis, histopathology, toxicity

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