Haematological response of the African catfish: Clarias gariepinus (Burchell, 1822) to sublethal concentrations of mercury chloride with supplementation of selenium and vitamin E.

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Abstract:

The aim of the present investigation is to determine the toxicological effects of mercury chloride on haematological parameters of the widely consumed African catfish, Clarias gariepinus. Adult specimens of Clarias gariepinus were exposed to a sublethal concentrations (0.04 and 0.12 ppm) of mercury chloride for 7, 14, 21 and 28 days. Blood samples were obtained from caudal circulation and used for the measurement of red (RBC) and white (WBC) blood cell counts, haematocrite (Hct), haemoglobin concentration (Hb), mean corpuscular volume (MCV), mean corpuscular haemoglobin (MCH) and mean corpuscular haemoglobin concentration (MCHC). Empirical data of results obtained were subjected to statistical analysis of variance (ANOVA) to test the effects of mercury, selenium, vitamin E and exposure periods. The mean values of RBC’s, Hct, Hb, MCH and MCHC were significantly decreased from the control values, while mean values of MCV, WBC and lymphocytes were significantly increased from the control values. The results suggest that mercury chloride can negatively affect the haematology of fish. It was observed that supplementation of selenium and vitamin E decreases the toxic effect of mercury.

Published In:

Conference: Fifth Saudi Science, At Om El-qura. Saudi Arabia, NULL, NULL.