

## Abstract

In recent years, drugs have been identified as newly emerging and threatening the aquatic and terrestrial environments. For this purpose, in this study, the effect of indomethacin on oxidative stress in *Cyprinus carpio* was investigated. In order to determine the LC<sub>50</sub>, the fishes were exposed to various concentrations of indomethacin and daily losses were recorded during hours. Then the lethal toxicity (LC<sub>50</sub>) of indomethacin was obtained for carp (328.49 mg/l). In the next step, the fishes were exposed to various concentrations of indometacin in five treatments including T1 (control), T2 (0.01 mg), T3 (0.02 mg), T4 (0.05 mg), T5 (0.1 mg) for 28 days. At the end of the experiment, antioxidant enzymes such as catalase (CAT), glutathione peroxidase(GPX) and malondialdehyde(MDA) were measured in the liver and gill tissues treated fishes. The results showed that GPX enzyme activity in gill and liver tissue in all treatments increased significantly in compared to the control treatment ( $p < 0.05$ ). MDA levels in liver tissue in T4 and T5 groups and gill tissue in T3 and T4 groups showed a significant increase in compared to the control group ( $p < 0.05$ ). Also, CAT activity in liver and gill tissue in T4 and T5 groups was increased significantly in compared to the control group ( $p < 0.05$ ). The results of this study demonstrated that keeping indomethacin in an aqueous environment can influenc the antioxidant status and health of the fishes.

Keywords: *Cyprinus carpio*, Indometacin , Oxidative stress markers, Lethal concentration



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