ABSTRACT

Dibutyl phthalate (DBP) is an endocrine disrupting chemical. Because of its low toxicity and wide liquid range, it is used as a plasticizer. Present study was designed to evaluate the toxic effects of DBP on liver, kidney and gills of grass carp (*Ctenopharyngodon idella).* Fish were exposed to sub lethal concentrations of DBP (1 μg/l, 10μg/l, 100μg/l and 1000 μg/l) in a semi static system for 14 days. After the stipulated time the organs to be tested were dissected out and used to evaluate oxidative stress. Exposure of sub lethal concentration of DBP (1000 μg/l) caused changes in various antioxidant enzymes in liver, kidney and gills of grass carp. In liver, kidney and gills the activities of LPO, CAT and GSH were increased but with concentration of 100 μg/l activity of CAT in Gills reduced. The level of GST in kidney, liver and gills was reduced with 1000 μg/l whereas it showed increasing trend in gills and kidney with dosage of 100μg/l. In liver, level of ALP was elevated whereas the level of AST was decreased with 1000 μg/l, but with 100μg/l ALP was reduced and level of AST was increased. In kidney, by exposure to 1000 μg/l of DBP, concentration of uric acid was increased and that of creatinine was reduced while at 100 μg/l of DBP, level of uric acid was reduced and creatinine was elevated. The results suggested that sub lethal dose of DBP elicit depletion of antioxidant defense system and induce oxidative stress in multi-organ tissues of Grass Carp.