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Abstracts of Papers

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PHENOL-INDUCED OXIDATIVE STRESS AND ATTENUATION BY ALPHA-TOCOPHEROL IN LIVER

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Oxidative stress can result in peroxidation of membrane lipids, damage to proteins, RNA and DNA in cells; when reactive oxygen species (ROS) are not adequately removed by antioxidants. Previous studies on the interaction of ROS with endogenous and exogenous antioxidants conclude that alpha-tocopherol scavenges radical species induced by tert-butyl hydroperoxide(J.Neural Trans. 1997). In the present report we studied the effect of alpha-tocopherol on phenol-induced oxidative damage in liver of freshwater catfish Hereopneustes fossilis. The animals were exposed in three concentrations of phenol(5, 10 and 15 ppm) for 15 days and lipid peroxidation was measured in terms of malonaldehyde (MDA) equivalents. Antioxidants superoxide dismutase (SOD) activity and ascorbic acid (AsA) content were also measured. The results showed increase in lipid peroxidation and SOD activity while AsA content was declined in phenol exposed groups. Supplementation of alpha-tocopherol attenuated the oxidative damage by depleting the lipid peroxidation in tissues. SOD activity did not change significantly ($p < 0.05$). We conclude increase in phenol concentration increase the oxidative stress in animal. Increased SOD activity with increase in lipid peroxidation demonstrates continuous generation of ROS in liver of phenol induced animals.