

Molecular cascade of cholinesterases expression in Alzheimer's brain

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Abstract

Present study elucidates a possible mechanism by which dichlorvos exposure (40 mg/kg b.w.) stimulates neurotoxic action in mice. Dichlorvos is already reported to cause perilous effects by inducing a change in oxidative responses and neurotransmitters level including AChE in mice. Experimental design included two sets of mice; first group was control and second was treated with dichlorvos consecutively for 21 days. Dichlorvos exposure increased the oxidative stress and declined the various antioxidants level such as catalase (CAT), superoxide dismutase (SOD), glutathione peroxidase (GPX), glutathione-S-transferase (GST) and reduced glutathione (GSH) in mice brain. A significant decline was recorded in AChE level of dichlorvos treated mice as compared to control ($P < 0.01$). Manifestation of toxic effects of dichlorvos was found via mediation of modulation in AChE gene expression which affected the overall functionality of brains. Sequencing results indicated the mutagenic effects of dichlorvos via showing gaps in sequence of AChE gene, in group II.

Biography

Renu Bist working at Department of Bioscience and Biotechnology, Banasthali University, Banasthali, Rajasthan, India. Interested in Research towards Genetics and Molecular Biology.