

# 4<sup>th</sup> Global Summit on **Toxicology**

**August 24-26, 2015 Philadelphia, USA**

## **Exposure of male Wistar rats to commercially available ethrel: Short term, long term effects and recovery**

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Recently, artificial fruit ripening using ethrel (ethephon) has become a major health concern. The present study investigated the effects of ethrel on behavioural, haematological and biochemical parameters. Rats were exposed to 100, 250, 500 mg/kg of (n=6/group) or distilled water (DW: control) for 90 consecutive days. Another two sets of animals (n=6/group) were orally treated either with 500 mg/kg BW of ethrel or DW for 90 days and were kept for another 28 days without treatment (recovery) to evaluate the reversibility, persistence or delayed occurrence of toxic effects. Food intake and BW changes were recorded weekly. Exploratory behaviour parameters, muscle strength and coordination were determined. Animals were autopsied and biochemical parameters [alanine aminotransferase (ALT) and erythrocyte cholinesterase (EchE)], haematological parameters and sperm parameters (concentration, motility and DNA damage) were measured. Ethrel induced a significant EchE inhibition at doses of 250 mg/kg (by 9.93%), 500 mg/kg (by 5.75%) and 500 mg/kg - recovery (by 14.62%). Further, ALT activity in treated groups (250 mg/kg, 500 mg/kg and 500 mg/kg - recovery) was significantly different from the control. The percentage of relative organ weights did not differ significantly. However, ratio of liver/body weight increased significantly at 500 mg/kg of ethrel. But, there were no apparent pathological changes in the liver. In conclusion, exposure to higher doses of ethrel may lead to liver damage and decrease EchE activity.

### **Biography**

L Dinithi C Peiris obtained her PhD from University of Sheffield, UK and Post-doctoral studies from Queen's University, and University of British Columbia, Canada. She is a senior Lecturer attached to University of Sri Jayewardenepura, Sri Lanka. She has published more than 15 papers in reputed journals and 6 text books for university students. She has been serving as an Editorial Board Member for two international journals.

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