

Toxicological Effects of Methyl Parathion and Protection Afforded by Ascorbic Acid in Small Intestine of Swiss Albino Mice: A Histological and Histometric Study

Suman Sharma^{*}, Kuljeet Kaur and Amar Santosh Dhalla

*Department of Zoology, Punjabi University, Patiala 147 002, Punjab, India
*Phone: 98722 76056; *E- mail: drsumansharma.15@rediffmail.com*

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ABSTRACT Methyl parathion (C₈H₁₀NO₅PS) is widely used insecticide known to cause fatal intoxication in both human and animals. This study was carried out to investigate the deleterious effects of methyl parathion on small intestine of mice. Animals were injected intraperitoneally an acute dose (3mg/kg bwt) of methyl parathion. Autopsies were done on 7, 14, 21 and 28 days post-treatment. The weight of intestine decreased drastically in methyl parathion treated group as compared to control. Histopathological changes involved degeneration of cryptal and villous region, loss of villi. Histometric analysis showed increase in percentage of pyknotic cells, dead mitotic figures and decrease in number of total cell of crypts. Also, this work was planned to evaluate the ability of ascorbic acid to prevent or reduce the toxic effects of methyl parathion. Mice were administered two doses of ascorbic acid 40mg/kg bwt and 80mg/kg bwt. Results showed that i.p. injection of 80mg/kg bwt of ascorbic acid daily was highly effective in protection against methyl parathion toxicity. Lower dose that is 40mg/kg bwt of ascorbic acid also provided protection but to a lesser extent