NEUROPATHOLOGIC EFFECTS OF METHOMYL ON SPRAGE-DAWELY RATS

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Abstract:

However pesticides contribute to a dramatic increase in crop yields and help to limit the spread of certain diseases by controlling pests, there is a strong evidence for persistent CNS damage following acute or chronic exposure to pesticides. The present study was carried out to investigate the neuropathological effects of methomyl, the common used carbamate pesticide in agriculture, on the brains of Sprage-Dawley rats. Rats were divided into two groups and treated orally with one dose of methomyl (10 mg/kg b.w.) and (2 mg/kg b.w., three times weekly). After one week and 3 months, brains from first and second groups were taken for histopathological examination, respectively. Methomyl significantly increased the numbers of necrosed neurons in the hippocampus of both animal groups compared to untreated controls. Also, methomyl caused neuronal degeneration and necrosis in cerebral cortex, cerebellum and some motor nuclei and induced glial proliferation and vacuolation of neuropil. In conclusions, methomyl induced neuronal degeneration and necrosis particularly in the hippocampus of SD rats.

Keywords:

Methomyl, rats, neurotoxicity

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