Abstract Information

First Name :	Laila
Last Name :	Berroug
Email :	berrouglaila@gmail.com
Address :	19 Woodland place White Plains NY

Participation :	symposium
Title of the Symposium :	Environmental toxins and brain alterations: from mild cognitive effects to severe consequences on neuronal cell death
Category :	Academic/Researcher
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Title :	Sex-dependt effects of developmental exposure to Malathion on behavior and brain biochemistry

Co-Authors :	Laila Berroug1· Meriem Laaroussi1· Oumaima Essaidi1· Hafsa Malqui1· Hammou Anarghou1· Ahmed Ait Chaoui1·Mohamed Najimi1. Fatiha Chigr1. 1: Biological Engineering Laboratory, Faculty of Science and Technology, Sultan Moulay Slimane University, Beni Mellal, Morocco

Abstract :

Malathion is an organophosphate pesticide (OP) commonly used in agriculture, industry, and veterinary medicine. Sex is a crucial factor in responding to neurotoxicants, yet the sex-speci?c e?ects of OP exposure, particularly neurological impair-ments following chronic low-level exposure remains limited. Our study aims to evaluate the neurobehavioral and biochemical e?ects of developmental exposure to Malathion across sexes. Pregnant mice were exposed to a low oral dose of Malathion from gestation up to the weaning of the pups, which were individually gavaged with a similar dose regimen until postnatal day 70. Our results show that Malathion decreased body weight and food intake, reduced locomotor activity and recognition memory. Motor coordination and special memory were only altered in females, whereas we found a male-speci?c e?ect of Malathion on social behavior and marble burying. These alterations were accompanied by increased malondialdehyde (MDA), decreased brain acetylcholinesterase activity (AChE), and disrupted brain redox homeostasis. Our ?ndings about the e?ects of Malathion exposure across sexes may, in part, contribute to understanding the dimorphic susceptibilities observed in neurological disorders.