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Journal Name:	Asian Journal of Research in Medical and Pharmaceutical Sciences
Manuscript Number:	Ms_AJRIMPS_46030
Title of the Manuscript:	Toxicological effects and Histopathological Alterations of Diazinon and Alpha Cypermethrin on Male Albino Rats
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>ABSTRACT Your abstract should be reconstructed to take this pattern; introduction, objective, materials and methods, results and discussion, conclusion.</p> <p>INTRODUCTION</p> <ul style="list-style-type: none"> ➤ The in-body-text referencing should not be Bolden as seen in pages 3, 6, 7 and 8, 16. The names of authors shouldn't be italicized along with the 'et al' as seen in page 15 ➤ First statement in paragraph 1 isn't correct and complete ➤ Paragraph 2 should be rephrased to " This group has been reported to have negative effect on different animal tissues including liver, kidney, immune system, pancreas, cardiac and vascular walls" or " This group has been reported to negatively affect different animal tissues including liver, kidney, immune system, pancreas, cardiac and vascular walls" ➤ Missing citations Page 3... "The alpha- cypermethrin molecule contains α-cyano group in the phenoxybenzyl alcohol moiety, which seems to be responsible for production of long-lasting prolongation of sodium permeability; clinically characterized by choreoathetosis and salivation. Decomposing of cypermethrin forms cyanides and aldehydes substances that can induce production of reactive oxygen species (ROS).(no citation) <p>They react with cellular molecules such as proteins, lipids and carbohydrates, and disrupt them. As a result of this, vital cellular structures and functions are lost and ultimately resulting in various pathological conditions(no citation)</p> <p>Antioxidant enzymes are capable of deactivating free radicals before they attack cellular components. Antioxidants act by reducing the energy of the free radicals or by giving up some of their electrons for its use, thereby causing it to become stable. In addition, they may also interrupt oxidizing chain reaction to minimize the damage caused by free radicals.(no citation)</p> ➤ The statement leading to materials and methods "...Regarding the previous mentioned the present study was aimed to study the adverse effects..." should be reconstructed <p>MATERIALS AND METHODS</p> <ul style="list-style-type: none"> ➤ Provide the reference(s) from which you had guides on how all experimental animals are to be handled. ➤ State how organs of interest (brain and liver) were obtained (were the rats sacrificed for obtain these organs?) <p>RESULTS</p> <ul style="list-style-type: none"> ➤ Results of liver and brain histopathology should be rephrased to "The control group showed the normal histological structure of hepatic lobules (Fig. 2). Hydropic degeneration of hepatocytes and multiple focal hepatic necrosis associated with inflammatory cells infiltration, hydropic degeneration of hepatocytes of liver tissue 	<p>ABSTRACT Done in paper</p> <p>INTRODUCTION Done In paper</p> <p>Missing citations Citation 1 WielgomasB.and J. Krechniak (2007): Effect of α-Cypermethrin and Chlorpyrifos in a 28-Day Study on Free Radical Parameters and Cholinesterase Activity in Wister Rats.Polish J. of Environ. Stud. Vol. 16, No. 1 (2007),91-95</p> <p>Krishnamurthy and Wadhwani (2012): Antioxidant Enzymes and Human Health(http://creativecommons.org/licenses/by/3.0)</p> <p>Done in paper.....</p> <p>Experiments were carried out in compliance with the guidelines of the Ethical Principles in Animal Research adopted by Ethics of animal use in research committee (EAURC), Vet. Med. College, Cairo University, Egypt(protocol no. 07/2013).In Mammalian and aquatic toxicology, CAPL, Agric. Res. Center, Dokki-Giza, Egypt.</p>



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	<p>in α-CYP-treated group and portal infiltration with inflammatory cells were evident in Fig. 3, Fig. 4 and Fig. 5 respectively”</p> <p>and “Microscopically, the changes in the histopathological architecture of the brain after 28 days of repeated oral administration of DIZ or α-CYP in a dose of 1/10 LD₅₀ for both insecticides revealed necrosis of neurons, neuronophagia (Fig. 7), focal gliosis (Fig. 8) and cellular oedema (Fig. 9). The brain tissues in α-CYP-treated group revealed congestion of cerebral blood vessel (Fig. 10), cellular oedema (Figs. 11) and focal gliosis (Fig. 12). Control group revealed no histopathological changes (Fig. 6)”</p> <p>DISCUSSION</p> <ul style="list-style-type: none"> ➤ The statement “study of (Amirkabirian <i>et al.</i>, 2007 & Abdou and El-Mazoudy, 2010) Which...” should be replaced with “study of Amirkabirian <i>et al.</i>, (2007) & Abdou and El-Mazoudy, (2010) which...” ➤ Correct to”... Microglial cells have receptors that enable them to sense damaged tissue and to recognize viruses, environmental and endogenous toxins and other pathogens” <p>CONCLUSION OR RECOMMENDATION</p> <ul style="list-style-type: none"> ➤ No conclusion and or recommendation 	<p>Done in paper</p> <p>Lipid peroxidation and decreased total antioxidant capacity in rat liver of diazinon exposed rats were noticed in previous study of (Amirkabirian <i>et al.</i>, 2007) & (Abdou and El-Mazoudy, 2010).</p> <p>Microglial cells have receptors that enable them to sense damaged tissue and to recognize viruses , environmental and endogenous toxins and other pathogens. Such recognition leads to upregulate (activate) of microglial cells. (Activated microglial encircle degenerating neurons (neuronophagia)). Gliosis is a nonspecific reactive change of glial cells in response to damage the central nervous system (CNS). In most cases, gliosis involves the proliferation or hypertrophy of several different types of glial cells, including astrocytes, microglia, and oligodendrocytes.</p> <p>Conclusion and Recommendations:-</p> <p>Done in paper</p> <p>The present study show the adverse effects of DIZ and α-CYP on male albino rats as evidenced by a significant increase in malondialdehyde (MDA), DNA damage, a marked alterations in antioxidant biomarkers (GST, CAT, SOD, GSH) and Histopathological changes in liver and brain of exposed rats. So the present study recommend with reduction of humans exposure to diazinon (DIZ) and Alpha-cypermethrin (α-CYP) pesticides.</p>
Minor REVISION comments	<ul style="list-style-type: none"> ➤ Boldening of some of the reference, erroneous sentences/phrases construction ➤ Materials and methods is supposed to be as brief as possible. Try trimming it down ➤ Inaccurate punctuations ➤ Magnification of figures not stated ➤ Mixing capital letters with small letters for separation of means in table 2 	<p>Done in paper</p>
Optional/General comments		



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PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i> Yes, experimental male albino rats used. How they were handled weren't stated and ethical approval for sacrificing the animals to obtain the brain and liver weren't provided	Experiments were carried out in compliance with the guidelines of the Ethical Principles in Animal Research adopted by Ethics of animal use in research committee (EAURC), Vet. Med. College, Cairo University, Egypt.