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CHEMICAL CONFIGURATION OF VARIOUS PHARMACEUTICAL, CHEMICAL AGENTS AND HEAVY METALS: A REVIEW

SUBHA GANGULY^{1,2}, TAPAS BISWAS²

1. EXECUTIVE BOARD MEMBER & ADVISER, RESEARCH SCHOLAR HUB (RSH) & ASSOCIATE EDITOR, IJPRET
2. AICRP On Post Harvest Technology (ICAR), Department of Fish Processing Technology, Faculty of Fishery Sciences, WEST BENGAL UNIVERSITY OF ANIMAL AND FISHERY SCIENCES, 5, Budherhat Road, P.O. Panchasayar, Chakgaria, Kolkata - 700 094, WB, India

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Abstract: Using two theoretical models (Ando formalism and Vinter formalism) an evaluation of effective mass (m^*/m_0) of electron as a function of N_s (concentration of electrons) in n-channel inversion layer has been performed. Our theoretical result of (m^*/m_0) decreases with N_s as per experimental observation. However, the theoretical values evaluated from Ando formalism are in better agreement with the experimental data.

Keywords: Effective mass, n-channel inversion layer, Quasi-particle, Electron Concentration



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Corresponding Author: Dr. SUBHA GANGULY

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INTRODUCTION

Pesticides are used to prevent losses of cultivated plant, food and feedstuff stress. The present review envisages on the chemical configuration of various chemical agents and heavy metals due to environmental exposure and through feed on poultry birds.

CHEMICAL CONFIGURATION

Acetamiprid, a member of the neonicotinoid group of insecticide is highly effective for the controlling aphids, beetles, moth, leafhopper, pests on crops and leafy vegetables, along with fleas infesting livestock and pet animals. It is a systemic insecticide with translaminar action which has a contact and stomach action. Moreover, acetamiprid being highly water soluble indicates a high potential for the compound to leach in soil or to run off in surface water. Acetamiprid is the most highly effective and largest selling group of insecticides worldwide for crop protection¹. Therefore, the relative risks and benefits of this insecticide must be compared to existing pesticide. Although, acetamiprid is highly used in India and abroad but there are still many doubts related to its toxicity and health hazards¹.

Enrofloxacin is a second generation quinolone derivative which belongs to the group fluoroquinolone. The fluoroquinolones are metabolized in the liver and excreted in urine through the kidney. The liver and kidney develop the highest drug concentration though concentrations in essentially all tissues, including the skeletal and central nervous system reach therapeutic levels. That is why it is relevant to detect the pathological alteration in the visceral tissues and organs².

Selenium function is closely associated with Vitamin E. Both have antioxidant property and protect the biological membranes from oxidative degeneration. Glutathione peroxidase is the enzyme which has selenium as its constituent with 4 gm Se atoms per mole. Out of the total body selenium, 40 per cent is in the enzyme glutathione peroxidase as observed in rats. Both glutathione peroxidase and vitamin E prevent the formation of lipid hydroperoxides which damage the cellular membrane and disturbed the structural integrity of the cells. Selenium and vitamin E are mutually replaceable to some extent but up to a particular limit³.

CONCLUSION

Based on the review and analysis of chemical and structural configuration of different pharmaceutical chemicals and heavy metals, it was suggested that their indiscriminate and injudicious use produces anemia, leucopenia, hypoglycaemia, hypoproteinemia, increased enzymatic activity and hepatotoxic and nephrotoxic effects in host individual.

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