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Abstract

Pesticide poisoning is the uncontrolled result of technological development specifically in agriculture. The aim of our study is to study the opposite effect of zinc on the neurotoxicity of a new generation pesticide (Deltamethrin) in wistar rats.

The dose of 360 ppm for deltamethrin and 70 mg / kg for zinc was chosen. Both xenobiotics were administered orally, brains are removed after three months of treatment, for the determination of metabolic parameters (proteins, Carbohydrates and lipids) and oxidative stress parameters (GSH, CAT, GPx, GST and MDA).

This study has been shown that DM caused a neurotoxic effect by the presence of an overall pro-oxidant effect, this is revealed by the significant decrease in the lipid content and a significant increase in the glucose and protein content and a decrease in the rate of GSH in the brain, on the one hand, and on the other hand, we have seen an increase in the enzymatic activity of GST, CAT, GPx and MDA. Our results also showed that zinc supplementation improved the detoxification equilibrium and decreased the detrimental effects of deltamethrin.

Zinc appears to be an effective antioxidant to reduce the imbalance between the formation of free radicals and the antioxidant systems of the body and thus to alleviate the intensity of the oxidative stress induced by this xenobiotic.

Key words: pesticides, pyrethroid, Deltamethrin, Neurotoxicity, Zinc, Rat, GST, CAT, GSH, GPx, MDA.