

Adverse Effects on Liver Function in Male Rats after Exposure to a Mixture of Endocrine Disrupting Pesticides

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Abstract : Exposure to endocrine disrupting (ED) during life may cause long-term health effects, the population is exposed to chemicals present in air, water, food and in a variety of consumer and personal care products. Previous research indicates that a wide range of pesticides may act as endocrine disrupters. The azole fungicides propiconazole and propineb have been shown to react through several endocrine disrupting mechanisms, and to induce various endocrine disrupting effects. The purpose of this study was to evaluate the effects of two fungicides; propiconazole and propineb tested separately and in combination, on liver function. The experimental was applied on male Wistar rats dosed orally with Propiconazole 60 mg/kg/day, Propineb 100 mg/kg/day and their mixture 30 mg Propiconazole/kg/day + 50 mg Propineb /kg/day for 4 weeks, for result, a significant increase in liver weights in both treated groups with propineb, propiconazole and their mixture by reference with controls group. Also, highly significant mean values of markers of liver function such as transaminases (ALT/AST) and the activity of alkaline phosphatase (ALP) in all treated groups. The antioxidant activity showed a significant decrease in the hepatic glutathione content (GSH) and glutathione peroxidase (GPX) in all treated groups.

Keywords : endocrine disrupting, pesticide mixture, propineb, propiconazole, liver, oxidative stress

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