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Redox Biology in the 21st Century:
A New Scientific Discipline

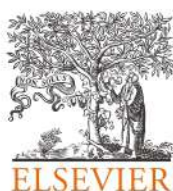
MEETING ABSTRACTS

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PP56**Antioxidative potential of *Viscum album* L. extract in imidacloprid-induced hepatotoxicity**

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Imidacloprid (IMD) belongs to a novel class of insecticides, neonicotinoids. Beside its well established generally low toxicity towards mammalian tissues, certain detrimental effects of IMD in various organs were also detected, including damages of liver. *Viscum album* is a hemiparasitic plant which has been used for decades in traditional medicine due to its plentiful bioactive compounds, including flavonoids. Therefore, the present study was carried out to evaluate the toxic effects of IMD on metabolic and histological parameters of liver tissue damage, and to investigate the potential protective role of *Viscum album* aqueous extract (VAE) from a pear tree. Thirty male Wistar rats were divided into: I group of animals served as control; II, IV and V group received IMD (70 mg/kg, via intragastric tube); III and IV groups received higher dose of VAE (350 mg/kg i.p), and V group received lower dose of VAE (175 mg/kg i.p). The results displayed that IMD administration increased total cholesterol, triglycerides and aminotransferases (AST and ALT), reduced albumins in serum and induced hepatic histopathological damage. IMD also increased LPO concentration and the activity of antioxidant system parameters (SOD, CAT, GSH-Px, GR and GST) in the liver, while AChE was inhibited. The treatment with VAE overcome toxic effects of IMD by reducing ALT, AST and lipids, and also by alleviating histological changes of liver tissue. The attenuation of oxidative stress was evidenced in reduced LPO levels and antioxidative enzyme activities (SOD, CAT and GSH-Px). These findings revealed the efficacy of VAE against liver induced IMD toxicity. These antitoxic and antioxidative effects could be ascribed to polyphenols present in the extract in high amount.

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