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Protective effects of *Urtica dioica* seed extract in aflatoxicosis: Histopathological and biochemical findings

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The ameliorative potential and antioxidant capacity of an extract of *Urtica dioica* seeds (UDS) was investigated using histopathological changes in liver and kidney of broiler, measuring serum marker enzymes, antioxidant defense systems and lipid peroxidation (malondialdehyde (MDA) content in various tissues of broilers exposed to aflatoxin (AF). A total of 32 broilers were divided randomly into 4 groups: control, UDS extract-treated, AF-treated and AF+UDS extract-treated. Broilers in control and UDS extract-treated groups were fed on a diet without AF. The AF-treated group and AF+UDS extract-treated groups were treated with an estimated 1 mg total AF/kg feed. The AF+UDS extract groups received in addition 30 ml UDS extract/kg diet for 21d. The AF-treated group had significantly decreased body weight gain when compared to the other groups. Biochemical analysis showed a small increase in the concentrations of serum aspartate aminotransferase, alanine aminotransferase, gamma glutamyl transpeptidase and lactate dehydrogenase in the AF-treated group compared to that of the control group, whereas concentrations of these enzymes were decreased in the AF+UDS group compared to that of the AF-treated group. Administration of supplementary UDS extract helped restore the AF-induced increase in MDA and reduced the antioxidant system towards normality, particularly in the liver, brain, kidney and heart. Hepatorenal protection by UDS extracts was further supported by the almost normal histology in AF +UDS extract-treated group as compared to the degenerative changes in the AF-treated broilers. It was concluded that UDS extract has a protective hepatorenal effect in broilers affected by aflatoxicosis, probably acting by promoting the antioxidative defense systems.

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