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THE AMELIORATIVE EFFECT OF TURMERIC AGAINST AFLATOXIN TOXICITY IN MALE ALBINO RATS FED ON MOULDY BREAD

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ISSN: 2682-3160

Moulds are found in many foodstuffs and produce toxic substances known as mycotoxins which are dangerous to the human health and livestock. Aflatoxins (AFs) are the most important mycotoxins affecting the human health and trade in the world. There is an inevitable exposure to AFs in developing countries. The current study aimed to investigate the ameliorative role of turmeric (tur) against AFs toxicity in adult male albino rats (Rattus norvegicus) fed on mouldy bread. Twenty-four rats were equally allotted into 4 groups: GpI (control group: fed on dry normal bread), GpII (mouldy bread group: fed on mouldy bread), GpIII (fed on normal bread + 60 mg tur/kg body weight/day), and GpIV (fed on mouldy bread + 60 mg tur/kg body weight/day). Total AFs concentration was measured in mouldy bread, and accordingly the daily dose of AFs was 0.272 mg/kg body weight of rat. After 30 days, the effect of tur on AFs toxicity was evaluated by investigating the activity of aminotransferases, kidney function, lipid profile, and glucose level in serum, as well

as genotoxicity and histopathological alterations. Feeding rats with mouldy bread containing AFs led to a significant increase in the activities of serum aspartate and alanine aminotransferases, the concentrations of serum creatinine, urea, total cholesterol, triacylglycerol, low-density lipoprotein cholesterol, and glucose, as well as genotoxicity in bone marrow cells and histopathological lesions in the liver and kidneys tissues. However, tur supplementation alleviated significantly almost all the above-mentioned harmful effects
of AFs.

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