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Original Paper

MORINGA OLEIFERA (MOF6) AND MUSA SAPIENTUM (MSF1) AMELIORATED 7,12-DIMETHYLBENZ[A]ANTHRACENE-INDUCED SKIN HISTO-PATHOLOGY, INFLAMMATION, HEPATIC OXIDATIVE STRESS AND MUTAGENESIS IN RATS

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Abstract

Moringa oleifera and Musa sapientum are ethno-medicinal plants, while 7,12-Dimethylbenz[a] anthracene is a carcinogen. This study evaluated anticancer potentials of MOF6 (extracted from Moringa oleifera leaves) and MSF1 (extracted from Musa sapientum suckers) in 7,12-Dimethylbenz[a]anthracene-induced mutagenesis in rats. Forty-five adult male rats were randomly divided into 9 groups (n = 5). Group 1 was Control. Groups 2 - 6 received single intra-peritoneal administration of 15 mg/Kg bodyweight of Dimethylbenz[a]anthracene on Day 1. Groups 3 - 6 were post-treated with 15 and 30 mg/Kg bodyweight MOF6 (Days 15 - 56), 10 mg/Kg bodyweight MSF1 (Days 15-56) and Doxorubicin/Cisplatin-dose (Days 15 - 29) respectively. Groups 7 - 9 received only MOF6-doses and MSF1-dose respectively. Doses of 7,12-Dimethylbenz[a]anthracene and extracts were administered orally. Skin histo-pathology (Haematoxylin and Eosin), thiobarbituric acid assay of Malondialdehyde (in Liver homogenates), and ELISA concentrations of sera TNFα and Liver homogenates' p53 were evaluated. Data were statistically analyzed ($p \leq 0.05$). Histopathological evaluations showed normal skin histology in Groups 1, 4, 8 and 9. Significant skin histo-alteration was observed in Group 2. Mild skin histo-alterations were observed in Groups 5 and 6. Statistical analyses showed decreased levels of TNF-alpha, Malondialdehyde and p53 in Groups 3 - 9 compared with Group 2. Overall, MOF6 and MSF1 ameliorated 7,12-Dimethylbenz[a]anthracene-induced skin histo-pathology, inflammation, hepatic oxidative stress and mutagenesis.

Keywords: *7,12-dimethylbenz[a]anthracene, lipid peroxidation, Moringa oleifera, Musa sapientum, p53, TNF-alpha*

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