

Ameliorative Effect of Flavonoid Fraction of Zanthoxylum zanthoxyliodesin in 1,2 Dimethylhydrazine Induced Colorectal Cancer Rats

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ABSTRACT

Colorectal cancer is one of first-three forms of cancer, and may be caused by environmental factors like diets and exposure to carcinogen such as 1,2 Dimethylhydrazine (DMH). Treatment using chemotherapy produces undesirable adverse effects, which can be alleviated by natural remedies. This study investigated the ameliorative potentials of Zanthoxylum zanthoxyliodes flavonoid fraction in DMH-induced colorectal cancer and doxorubicin treated rats. Thirty-two male Wistar rats were randomly selected into four groups namely; Normal group, DMH (35 mg kg⁻¹ b.wt.week⁻¹) only, DMH and doxorubicin (10 mg/kg b.wt), and DMH and plant extract (500 mg/kg b.wt) by intubation. The sixteen weeks experiment was monitored by the changes in body weight of rats, mean weight-to-volume (MWV) of the colon tumour, hematological, hepatic and oxidative indices in the liver and the colons of the experimental rats. Results showed that treatment of rats with DMH ignited a significant ($p < 0.05$) loss of body weight, HGB, RBC, PLT, CAT and SOD compared to the control and doxorubicin treatment groups. Contrarily, the administration of DMH caused a significant ($p < 0.05$) elevation of ALT, AST, WBC, LYM and GSH than the extract and the doxorubicin groups. Hence, the use of the extract as supplement for treatment of cancer alongside orthodox medicines could be considered in drug discovery given credence to its usage in as herbal therapy for treatment of colon cancer in poorly developed countries like Nigeria.

Keyword: Ameliorative Effect, Flavonoid Fraction, Zanthoxylum zanthoxyliodesin, 1,2 Dimethylhydrazine, Induced Colorectal Cancer, Rats

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