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Anticancer Effect of Isolated from the Methanolic Extract of Triticum Aestivum Straw in Mice

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Abstract : Rutin is the bioactive flavonoid isolated from the straw part of Triticum aestivum and possess various pharmacological applications. The aim of this study is to evaluate the chemopreventive potential of rutin in an experimental skin carcinogenesis mice model system. Skin tumor was induced by topical application of 7, 12-dimethyl benz(a) anthracene (DMBA) and promoted by croton oil in Swiss albino mice. To assess the chemopreventive potential of rutin, it was orally administered at a concentration of (200 mg/kg and 400 mg/kg body weight) continued three times weekly for 16th weeks. The development of skin carcinogenesis was assessed by histopathological analysis. Reductions in tumor size and cumulative number of papillomas were seen due to rutin treatment. Average latent period was significantly increased as compared to carcinogen-treated control. Rutin produced a significant decrease in the activity of serum enzyme serum glutamate oxalate transaminase (SGOT), serum glutamate pyruvate transaminase (SGPT), alkaline phosphatase (ALP) and bilirubin when compared with the control. They significantly increased the levels of enzyme involved in oxidative stress glutathione (GSH), superoxide dismutase (SOD) and catalase. The elevated level of lipid peroxidase in the control group was significantly inhibited by rutin administration. The results of the present study suggest the chemopreventive effect of rutin in DMBA and croton oil-induced skin carcinogenesis in swiss albino mice and one of the probable reasons would be its antioxidant potential.

Keywords : chemoprevention, papilloma, rutin, skin carcinogenesis
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