

Antimutagenic Efficacy of Some Natural Compounds on Cyclophosphamide-Induced *p53* Alterations

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Mutations in the *p53* tumour suppressor gene have been associated with chemical carcinogens. Natural antimutagens are promising modulators for reducing the cancer risk. The present study was carried out to assess the protective efficacy of some natural antimutagens against *p53* alterations. We investigated the ability of curcumin (100 mg/kg BW) and chlorophyllin (3 mg/kg BW) pretreatment, for three times per week for three successive weeks, to inhibit mutations induced by intraperitoneal injection of a single dose of 40 mg/kg BW of cyclophosphamide (CP). Forty male albino rats were assigned into four groups: control non-treated group, CP-treated group, curcumin-CP-treated group, and chlorophyllin-CP-treated group. Liver samples were collected for DNA isolation two days after CP injection. The isolated DNA was used in single-strand conformational polymorphism (SSCP) analysis of polymerase chain reaction (PCR)-amplified products of four regions: two in exon 5, one in exon 6, and one in exon 7. The amplified products of *p53* different regions were found to be in the expected molecular size of the designed primers. SSCP analysis of these amplified products showed that CP-induced mutation in the *p53* gene was found only in exon 7 shifting its electrophoretic mobility. Chlorophyllin treatment prior to CP injection had a more potent protective efficacy (80 %) than that with curcumin (33.3 %).

Key words: *p53* Gene, Mutation, PCR-SSCP