MODIFYING EFFECT OF VITAMIN E AND ETHANOL ON BENZO[a]PYRENE INDUCED CHROMOSOME DAMAGE IN MICE BONE MARROW CELLS

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Summary. In the present study we have evaluated the potential of vitamin E protective effect against benzo[a]pyrene (B[a]P), induced clastogenicity in male C57BL x CBA mice bone marrow cells *in vivo*. Vitamin E (250 mg/kg b.w.) was given by gavage for 7 days prior to the administration of B[a]P (45 mg/kg b.w). For ethanol treatment animals were aloud to drink ethanol (10% water solution) *ad libitum* for 7 consecutive days. The animals were sacrificed by cervical dislocation 24 h after the last dose administration. The frequencies of chromosome aberrations were estimated in 100 metaphases per animal. Each group consisted of six animals. Chromosome aberration analysis revealed significant protective effect of vitamin E against B[a]P induced chromosome damage. Chromosome aberration frequency reduced significantly in animals co-treated with B[a]P and vitamin E as compared with those treated with B[a]P alone (2.00±0.26 *vs.* 9.50±0.72, $P<0.0001$). The protective effect of vitamin E in B[a]P + ethanol co-treated animals was lower when compared with B[a]P treated animals (2.80 ± 0.58 *vs*. 2.00 ± 0.26, $P>0.05$). Our results confirm the ability of vitamin E to reduce the chromosome damage induced by benzo[a]pyrene in mice *in vivo*. Treatment with ethanol had no significant effect on the frequency of chromosome aberrations under conditions of the current study.

Keywords: vitamin E; benzo[a]pyrene; ethanol; chromosome aberration; bone marrow; mice.