



Genetic Risk Assessment in Cigarette Smokers

J.S. Yadav, S. Thakur and A.K. Chhillar

KEY WORDS Peripheral Blood. Lymphocytes. Mitotic Index. Chromosomal Aberrations. Sister Chromatid Exchanges. Satellite Associations. Genotoxicity.

ABSTRACT The genotoxic effect of cigarette smoke was investigated on somatic chromosomes of fifty occupationally non-exposed male cigarette smokers. These were compared to an equal number of non-smokers matched with respect to age, sex and social status. The mitotic index (MI), chromosomal aberrations (CA), sister chromatid exchanges (SCE) and satellite associations (SA) were analysed. All the parameters showed a significant increase ($P < 0.01$) in the smokers compared with controls: viz. MI (3.78-6.59), CA (0.98-2.94), SCE (3.64-7.67) and SA (5.54-10.54). A clear time-dose-effect relationship was observed. Cigarette smoke is, thus, both clastogenic and genotoxic for human beings.

Author's Address: J.S. Yadav, S. Thakur and A.K. Chhillar. Human Genetics Unit, Department of Zoology, Kurukshetra University, Kurukshetra 136 119, Haryana, India

©Kamla-Raj 2001

Human Ecology Special Issue No. 10: 165-170 (2001)

Human Ecology in the New Millennium

Veena Bhasin, Vinay K. Srivastava and M.K. Bhasin, Guest Editors