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Cytogenetic Damage in Individuals Exposed to Vehicular Pollution

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KEY WORDS Peripheral blood lymphocytes; chromosomal aberrations; sister chromatid exchanges; satellite associations.

ABSTRACT Cytogenetic investigations on peripheral blood lymphocytes of 50 individuals exposed to different air pollutants on the road sides was made. This was compared to an equal number of exposed and matched controls w.r.t. age, sex, smoking and drinking habit 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 exposed sample compared with the controls, viz. MI, 3.75-6.80; CA 0.96-2.98; SCE 3.92-8.18 and SA 6.18-14.50. The occurrence of the DG type of satellite association was highest and that of 3D type lowest. The frequencies of all the parameters also showed elevation with duration of exposure. MI however, showed decrease after continuous increase upto 15 years of exposure. The vehicular fumes were thus found to be genotoxic.

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