ISSN 0972-3757
International Journal of
HUMAN GENETICS

PRINT: ISSN 0972-3757 ONLINE: 2456-6360
Int J Hum Genet, 15(4): 173-182 (2015)
DOI: 10.31901/24566330.2015/15.04.02

Perspectives Revisited - The Buccal Cytome Assay in Mobile Phone Users

Gursatej Gandhi*, Prabhjot Singh and Gurpreet Kaur

Department of Human Genetics, Guru Nanak Dev University, Amritsar 143 005, Punjab, India

KEYWORDS DNA Damage. Cytokinetic Defects. Cell Death. Buccal Epithelial Cells

ABSTRACT Buccal cell preparations previously scored for micronuclei were re-investigated for genomic instability and other biomarkers to assess DNA damage, cell-proliferation and cell-death in healthy mobile phone users (n=25; 30.96±2.09y) using mobile phones for 3-5y and the non-mobile phones users (n=25; 32.28±2.01y) according to the buccal micronucleus cytome (BMCyt) assay which was then not available. The frequency of micronuclei (13.66x), nuclear buds (2.57x), basal (1.34x), karyorrhectic (1.26x), karyolytic (2.44x), pyknotic (1.77x) and condensed chromatin (2.08x) cells were highly significantly (p=0.000) increased in mobile phone users whereas the binucleated cells (4.03x) and repair index (8.36x) showed significant decrease (p=0.000). DNA damage and nuclear anomalies scored in BMCyt assay are indicative of genetic damage that has not been repaired and this may predispose the mobile phone users to malignancy and cytotoxicity ramifications. Therefore, despite the benefits of communication technology, measures need to be taken so that better connectivity is not at expense of health.