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## Effect of mobile phones on micronucleus frequency in human exfoliated oral mucosal cells.

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Source

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Erratum in

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Abstract

OBJECTIVE:

In the last two decades, the use of mobile phones has increased enormously all over the world. The controversy regarding whether radiofrequency (RF) fields exert effects upon biological systems is a concern for the general population. An evaluation is made of DNA damage and cytogenetic defects, proliferative potential, and cell death because of RF radiation emitted by mobile phones in healthy young users.

STUDY DESIGN:

This cohort study was carried out in 50 Caucasian mobile phone users. We collected two cell samples from each subject (a total of 100 cell samples), corresponding to the right and left cheek mucosa, respectively. Case histories and personal information were assessed, including age, gender, body height and weight, history of cancer, smoking and alcohol consumption, exposure to chemical carcinogens or radiation, and dietary habits. Sampling comprised cell collection from both cheeks with a cytobrush, centrifugation, slide preparation, fixation, and staining, followed by fluorescent microscopic analysis. A total of 2000 exfoliated cells were screened for nuclear abnormalities, especially micronucleus.

RESULTS:

No statistically significant changes were recorded in relation to age, gender, body mass index, or smoking status. A comparison of the results vs the control area according to the side of the face on which the mobile phone was placed, and in relation to the duration of exposure (years) to mobile phone radiation in the total 100 samples, yielded no significant differences.

CONCLUSIONS:

No genotoxic effects because of RF exposure were observed in relation to any of the study parameters.

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[Publication Types, MeSH Terms, Substances](#)

Publication Types

Comparative Study

MeSH Terms

Adult

Alcohol Drinking

Body Height

Body Mass Index

Body Weight

Carcinogens

Cell Death/radiation effects

Cell Proliferation/radiation effects

Cellular Phone\*

Cohort Studies

Cytodiagnosis/instrumentation  
DNA Damage  
Electromagnetic Fields/adverse effects  
Environmental Exposure  
Female  
Food Habits  
Humans  
Male  
Micronuclei, Chromosome-Defective/classification\*  
Micronucleus Tests  
Microscopy, Fluorescence  
Mouth Mucosa/radiation effects\*  
Mouth Mucosa/ultrastructure  
Radio Waves\*/adverse effects  
Smoking  
Young Adult  
Substances  
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