

Medical/biological Study (experimental study)**The correlation between the frequency of micronuclei and specific chromosome aberrations in human lymphocytes exposed to microwave radiation in vitro.**

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Aim of study (according to author)

1) To explain the origin of micronuclei with regard to specific chromosome aberrations (acentric fragments and dicentric chromosomes), and 2) to detect the genotoxic effect of microwave radiation by analysis of structural chromosome aberrations and the micronucleus test in human lymphocytes.

Endpoint

- genotoxicity/mutation: chromosomal damage; percentage of micronuclei

Exposure

Field characteristics	Parameters
7.7 GHz exposure duration: 10, 30 and 60 min.	power: 2 W (max output of the generator) power flux density: 5 W/m ² (10 mW/cm ² and 30 mW/cm ²)

Exposed system:
intact cell/cell culture (in vitro)

Methods

Endpoint/Measurement parameters/Methodology

- genotoxicity/mutation: chromosomal damage (acentric fragments, dicentric and ring chromosomes, chromatid and chromosome breaks; metaphase analysis); percentage and distribution of micronuclei

investigated material: intact cell/cell culture (in vitro)

time of investigation: after exposure

Main outcome of study (according to author)

The results indicate that microwave radiation causes changes in the genome of somatic human cells. A positive correlation between micronuclei and specific chromosomal aberrations after exposure was observed. In the exposed samples the presence of dicentric and ring chromosomes was established.

(Study character: medical/biological study, experimental study, full/main study)

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