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Cytogenetic Studies on Railway Engine Drivers Exposed to Extremely Low Frequency Electromagnetic Fields (ELF-EMF)

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ABSTRACT Electric train engine drivers are occupationally exposed to relatively high magnetic field flux densities, while exposure to the other genotoxic agents is considered to be low or non-existent. The present study aimed to analyze the Chromosomal Aberrations (CAs) and Sister Chromatid Exchange (SCE) frequencies among the railway engine drivers occupationally exposed to ELF–EMF. Additionally, to know the synergestic/co–mutagenic effects, the blood samples of these individuals were exposed *in vitro* to 6ng/ml Mitomycin–C (MMC) and Chromosomal Aberrations (CAs) were studied. The results of the present study do not give any support to the hypothesis that occupational exposure to ELF–EMF can exert a genotoxic effect in these exposed individuals. In addition, it seems that ELF–EMF exposure along with Mitomycin–C (MMC) treatments does not influence the levels of Chromosomal Aberrations (CAs), indicating no possibility of synergestic/co–mutagenic effects.