



Immune health: a rising concern due to increasing non-ionizing electromagnetic radiation exposure

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Radiofrequency radiations may represent a new kind of environmental contaminant consistent with the emerging data. Recent years have witnessed significant rise in attention towards impact of RFR on the human immune system, not only to investigate potential detrimental effects on health but also to comprehend if RFR might affect the immune response favourably. Despite the fact that several research on the immunological effects of RFR have been published, no reasonable consensus has been achieved. Therefore, the purpose of this study is to assess the effects of RFR modulation on specific immune cells that contribute to a range of innate or adaptive immune responses. We have proposed an intracellular signalling cascade as the mechanism underlying RFR action, considering the available evidence to date. We discuss about how RFR affects immune cell morphology, viability, proliferation, genome integrity, and immune functions like ROS, cytokine secretion, phagocytosis, and apoptosis. The most of the information presently suggests that the activity, density, and/or function of immunocompetent cells may change, but the results of several studies are still inconclusive, prompting more research in order to draw a firm conclusion. We propose that, in order to rule out the possibility that prolonged exposure to RFR emitting devices would impair immunity by inducing genotoxic effects in human immune cells, special experiments should be designed to test each specific signal used in communication technologies.