

عنوان مقاله:

Pre-Exposure to Radiofrequency Electromagnetic Fields and Induction of Radioadaptive Response in Rats Irradiated with High Doses of X-Rays

محل انتشار:

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خلاصه مقاله:

Background: Some evidence shows that a pre-exposure to RF can mitigate the effects of subsequent exposures to high doses of ionizing radiation. Objective: We aimed to assess the effect of a pre-exposure to non-ionizing RF radiation on survival, weight changes, food consumption, and water intake of lethally irradiated rats. Material and Methods: In this case-control study, we used a commercial mobile phone (GSM, 900/1800 MHz) as well as a 2.4 GHz Wi-Fi router as the sources of pre-exposure to RF radiation. Forty-eight rats were randomly divided into six groups of control, "1 Gy X-rays", mobile phone, "mobile phone+1 Gy", Wi-Fi, and "Wi-Fi+1 Gy". Then, the survival fraction, weight loss, water, and food consumption changes were compared in different groups. Results: The survival analysis indicated that the survival rates in all of the exposed animals ("1 Gy X-rays", "mobile phone+1 Gy", "Wi-Fi+1 Gy") were significantly lower than the control, "Wi-Fi", and "mobile phone" groups. The changes in survival rates of "mobile+1 Gy", "Wi-Fi+1 Gy", and 1 Gy alone were not statistically significant. However, food and water intake were significantly affected by exposure to both RF pre-exposures and exposure to high dose ionizing radiation. Conclusion: To the best of our knowledge, the existence of a dose window for the induction of AR can be the cause of the lack of AR in our

experiment. Our findings confirm that in a similar pattern with the adaptive responses induced by pre-exposure to ionizing radiation, the induction of adaptive response by RF-pre-exposures requires a minimum level of damage to trigger adaptive phenomena

کلمات کلیدی:

Radiofrequency Radiation (RF), Radioadaptive Response, Cell Phone, Electromagnetic Radiation, Survival analysis

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