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Protective Effect of Moringa on Salivary Glands of Rats Exposed to Electromagnetic Radiation of Mobile Phone: A Histological Study

ABSTRACT

The growing widespread usage of cell phones has resulted in potential negative impacts on human health due to their use near the location of salivary glands, which might be affected by non-ionizing radiofrequency radiation emitted from cell phones. The purpose of the study was to investigate the effect of electromagnetic waves from cell phones on the salivary glands of male albino rats. Albino rats ($n = 42$) were divided into 6 groups ($n = 7$ per group). Group I, the control group, received normal saline. In Group II, animals received 200 mg/kg body weight of ethanolic extract of Moringa leaves orally by gavage for a period of 10 weeks with no cell phone radiation. In Group III, animals were exposed to the data mode for 2 hours per day for 10 consecutive weeks. In Group IV, animals were exposed to calling mode for 2 hours per day for successive 10 weeks. In Group V, animals were subjected to data mode for 2 hours per day and given 200 mg/kg of Moringa extract. Group VI: animals exposed to calling mode for 2 hours/day and receiving 200 mg/kg of Moringa extract orally for a period of 10 weeks. Salivary gland samples were prepared for histological analysis after the experiment. In histological sections, the cells lining mucous acini, granular convoluted tubules, and striated ducts displayed symptoms of atrophy, vacuolar degeneration, necrosis, and detachment from the basement membrane edoema. These outcomes were examined using a light microscope. As a result of cell phone electromagnetic radiation, male albino rats' salivary glands suffered pathological alterations.