EFFECTS OF 2.45 GHZ MICROWAVE FREQUENCY ON THE TOTAL OXIDANT AND THE TOTAL ANTIOXIDANT CAPACITY AND OXIDATIVE STRESS INDEX IN WISTAR ALBINO RATS

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Aim - The aim of this study was to evaluate the effect of 2.45GHz Microwave (MW) frequency on total oxidant capacity (TOC), total antioxidant capacity and oxidative stress index (OSI) in Wistar albino rats.
Material and Methods - Twenty-two adult male Wistar albino rats, with a mean body weight of 378 ±36 g. were randomly divided into two groups: Study group (n=11) and control group (n=11). Rats in the study group were exposed to 2.45 GHz MW radiation (11.96±0.89 V/m), for 2 hours each day for 21 days. Control group rats were housed, no exposed MW radiation, in different room from study group. The TOC, the TAC and the OSI were measured.
Result - The TOC value of the study group was higher than control group ($p<0.001$). In parallel with the increase in the TOC value, it was observed that the TAC value of the study group was higher than the control group ($p<0.05$). Also, the OSI value of the study group was higher than the control group ($p<0.001$).
Conclusions - As a result of this study, it may be concluded that MW radiation changes the TOC, TAK and OSI values because of the stress of MW radiation.

Keywords - Wistar albino Rats, microwave (MW) radiation, total oxidant capacity (TOC), total antioxidant capacity (TAC),