

NEUROLOGY AND NEUROSCIENCE

March 25-26, 2019 Osaka, Japan

Weight, cortisol, hyperactivity and microwave ovens

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For the public it is known that microwave ovens are designed so that the microwaves are contained within the oven itself. However, when measuring the electromagnetic field around oven, a radiation leak was found. Therefore, it was decided to study the effect of the non-ionizing radiation emitted by microwave oven on a living organism. Research on six Wistar rats (weight 36.4 ± 3.175 gr) were conducted. Experimental group rats were placed in the test room. Rats cage were placed near microwaves oven from closed door escape 727 Mw/m^2 power density microwaves. It was switch over two times a day for 3-3 minutes during 10 days. After 10 days, body weights in both groups were measured. In experimental group, rats body weight increase more than in control sham group, 26.7 ± 4.3 and 11.19 ± 4.953 gr respectively $n=20$, $p < 0.05$. In open field test, experimental group rats spent significantly more time in center square than sham control group rats, line crossings, center square entries, stretch attend postures are also more in experimental group rats than in control. Cortisol level were significantly increased in experimental group rats than in sham control group (0.98 ± 0.08 and 0.64 ± 0.15 ng/ml respectively $n=20$, $p < 0.05$ respectively). It was found that microwave radiation escape from oven and it effect organism. Serum levels of cortisol are elevated and body weight is increased. In open field test results show that microwave radiation cause hyperactivation.

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