

OP-49 THE EFFECTS OF 1800 MHz RADIO FREQUENCY RADIATION ON UTERINE
CONTRACTILITY

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Objective: Extensive use of mobile phones raises the concern about the health effects of 1800-MHz radiofrequency (RF) radiation. The uterine smooth muscle is able to produce regular spontaneous contractions without any hormonal or nervous stimuli. Uterine contractions are important in many reproductive functions including the transport of sperms and embryo, menstruation, pregnancy and parturition. The aim of this study was to evaluate the possible effects of 1800 MHz GSM-like exposure on uterine contractions.

Material and Methods: Twenty-nine female rats were used in this study. The rats were divided into three groups as control, sham and experimental group (9 animals per group). Control group was kept in the normal condition of the laboratory. Experimental group of rats were exposed to 1800 MHz RF radiation 2 h/day for 60 days. The animals in the sham group were introduced into the exposure system 2 h/day for 60 days but not treated with RF radiation. On the nineteenth day, following cervical dislocation, uterine horns were isolated and uterine strips were prepared from horns. For the recording of spontaneous activity, the uterine strips were placed vertically in 20 mL organ baths with Krebs solution. When the contractions became regular, data acquisition was started for all groups using electrophysiological recording station. In this study, Fast Fourier Transform is used to analyze the uterus spontaneous activity records. Fundamental frequency and amplitude of fundamental frequency was calculated from the recordings.

Results: The contraction frequency decreased significantly in experimental group compared to control and sham
