

عنوان مقاله:

The Effect of Increased Electrical Field Strength of 950 MHz Waves on the EPSP Slope

محل انتشار:

مجله فیزیک پزشکی ایران, دوره 6, شماره 1 (سال: 1388)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Seyed Mohammad Firoozabadi - *Associated Professor, Medical Physics Dept., Tarbiat Modares University, Tehran, Iran*

.Majid Jadidi - *Assistant Professor, Medical Physics Dept., Semnan University of Medical Sciences, Semnan, Iran*

.Ali Rashidy-Pour - *Professor, Physiology Research Center, Semnan University of Medical Sciences, Semnan, Iran*

.Bahram Bolouri - *Associated Professor, Medical Physics Dept., Iran University of Medical Sciences, Tehran, Iran*

خلاصه مقاله:

Introduction: Over the last decade, exposure to electromagnetic waves due to base station antennas has increased. This study was planned to evaluate the effects of different electrical field strengths with 950 MHz waves of the GSM mobile phone system on the excitatory postsynaptic potentiation (EPSP) slope of the dentate gyrus long-term potentiation (LTP). **Material and Methods:** Twenty four naive male Wistar rats (3 months old, weighing 220 ± 15 g) were randomly divided into three groups (sham-exposed, GSM with 50.4 V/m and GSM with 60 V/m electrical field strength). The exposure program was carried out for 10 sessions during 3 days. The animals were exposed to the electromagnetic field for 45 minutes in a plastic chamber. Immediately after the exposure, anesthesia was induced for LTP induction and the field potentials were recorded for 60 minutes, then the EPSP slope and maintenance were analyzed. **Results:** Our data showed that whole-body exposure to 950 MHz waves of the GSM mobile phone system with 60 V/m electrical field strength could change the EPSP slope in rat brain hippocampus. **Discussion and Conclusion:** Increasing the electrical field strength could change synaptic plasticity and LTP characteristics in rat brain hippocampus.

کلمات کلیدی:

Electromagnetic Wave, Mobile Phone, Long-term potentiation, EPSP (Excitatory Postsynaptic Potentiation) Slope

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