

Original Paper

Effect of cell-phone radiation during pregnancy on serum level of the testosterone, FSH, LH and sex cell lines in 60-day old offspring male rats

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Abstract

Background and Objective: Use of cell-phone cause adverse effect of radiations in many people. This study was conducted to investigate the effect of cell-phone radiation during pregnancy on serum level of the testosterone, FSH, LH and sex cell lines in 60-day old offspring male rats.

Methods: In this experimental study, 24 rat's dams were randomly allocated into control, sham and interventional groups. Animals in control group have not been affected with the radiation and the interventional groups were exposed to cell-phone radiation from the beginning of pregnancy as much as 4 hours daily for 14 days. The sham group over the same period was exposed around cell-phone turning on without conversation. After childbirth and maturity 10 male offspring of different groups separated and after phlebotomizing, testosterone, FSH, LH was measured for each offspring. After anastasia, testis was removed, weighted, measured and throught histological method leydig, sertoli, spermatogonia and spermatid cells were counted for each offspring.

Results: weight and size of the testis, the volume of seminiferous tubules, the volume of interstitial tissues of seminiferous tubules, and spermatocytes, spermatid, sertoli and spermatogonia cells numbers were significantly reduced in interventional group in compare to control and sham groups ($P < 0.05$) but reduction of leydig cells, FSH, testosterone and increasing level of LH in interventional group did not change significantly in comparision with control and sham groups.

Conclusion: Cell-phone radiations during pregnancy caused significantly reducing in sex cell lines but do not cause significant effect on FSH, LH and testosterone level in mature male offspring.

Keywords: Cell-phone, Spermatogenesis, Testosterone, FSH, LH, Sertoli, Rat offspring

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