Dampak Radiasi Gelombang Elektromagnetik Telepon Selular 900 MHZ terhadap Kadar Serum Testosteron Kelinci

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Abstrak

Background: There is a growing interest In the potential biological effects of electromagnetic fields (EMFS) on human. Mobile phone is currently known as one of the most world wide used tool which emitted, up to certain extent, EMFS. We try to explore the possible adverse effects of mobile phone on the function of the reproductive system, particularly focused on serum testosterone level, as one of the most important parameter of reproductive function. Objective: To evaluate the biological effect of RFEMR of mobile phone on serum testosterone level. Method: As a model, we exposed 9 New Zealand Rabbits to RFEMR of mobile phone, Nokia 8110, 900 MHz, built in antena,with Specific Absorption Rate (SAR) of 0.6 mW/cm2 • Total serum testosterone level was evaluated from 2 ml of rabbit blood collected prior and after the exposure. Group A exposed to 10 calls per day, group B exposed to 20 calls per day,and group C exposed to 30 calls per day ; duration of each call was 120 seconds, within 7 consecutive days. Result: Statistical analysis show a significant correlation was shown between RFEMR of mobile phone and serum total testosterone level ($p = 0.0208$; $a < 0.15$) as well as between intensity of radiation and serum total testosterone level ($p = 0.0753$; $a < 0.15$). Conclusion: RFEMR of mobile phone has an impact on serum total testosterone level.