

عنوان مقاله:

Exposure to cell phone induce oxidative stress in mice preantral follicles during in vitro cultivation: An experimental study

محل انتشار:

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خلاصه مقاله:

Background: Radiations emitting from mobile phones have been proposed to affect people's health, mediated by various mechanisms like induction of oxidative stress. Objective: This study aims to investigate the effect of cell phone exposure on the oxidative status of mice preantral follicles (PFs) during in vitro culture. Materials and Methods: PFs (n = 2580) were isolated mechanically from 16 to 18 day-old NMRI mice (n = 50) and divided into control and cell phone-exposed groups. PFs were cultured for 12 days and ovulation was induced using human chorion gonadotropin. The developmental parameters including size, survival, antral cavity formation, ovulation and oocyte maturation were assessed. In parallel, enzymatic antioxidants activities, total antioxidant capacity (TAC), and Malondialdehyde (MDA) levels were evaluated. Results: The diameters and the rates of survival, antrum formation, ovulation, and metaphase II oocytes of exposed PFs to cell phone were significantly lower than those of the control group (p 0.001). The PFs exposed to cell phone had significantly lower superoxide dismutase (SOD), glutathione peroxidase (GPX), and catalase (CAT) activity compared with the control group. In the cell phone exposed PFs, the TAC level was significantly lower (p 0.001) and MDA levels was significantly higher (p 0.001), compared to the those of control group. Conclusion: Exposure to cell phone compromised the developmental competence of mice PFs by increasing oxidative stress.

کلمات کلیدی:

Ovarian follicle, Cell phone, Oxidative stress, Mice

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